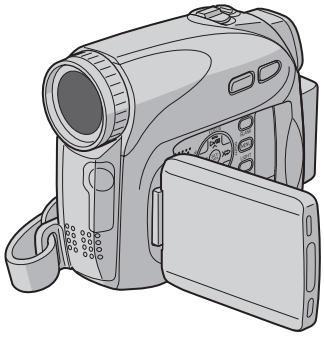
JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

GR-D650AA, GR-D650AC, GR-D650AG, GR-D650AH, GR-D650AS



Mini DV PAL

SD

MultiMediaCard

GR-D650AAM, GR-D650ACM, GR-D650AGM,
GR-D650AHM, GR-D650AS [M6D2S7]

Regarding service information other than these sections, refer to the service manual No. YF142 (GR-D650EX).
Also, be sure to note important safety precautions provided in the service manual.
For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.YF081(MECHANISM ASSEMBLY).
Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

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No.YF143
2006/5

SPECIFICATION

■Camcorder

For General	Power supply		DC 11 V (Using AC Adapter) DC 7.2 V (Using battery pack)
	Power consumption		Approx. 2.8 W (3.0 W*) (LCD monitor off, viewfinder on) Approx. 3.1 W (3.3 W*) (LCD monitor on, viewfinder off) * Using LED Light
	Dimensions (W × H × D)		59 mm × 97 mm × 112 mm (with the LCD monitor closed and the viewfinder pushed back in)
	Weight		Approx. 420 g (without battery, cassette and lens cap) Approx. 500 g (incl. battery, cassette and lens cap)
	Operating temperature		0°C to 40°C
	Operating humidity		35% to 80%
	Storage temperature		-20°C to 50°C
	Pickup		1/5" CCD
	Lens		F 1.2, f = 3.0 mm to 45 mm, 15:1 power zoom lens
	Filter diameter		Ø30.5 mm
	LCD monitor		2.5" diagonally measured, LCD panel/TFT active matrix system
	Viewfinder		Electronic viewfinder with 0.16" color LCD
	Speaker		Monaural
	LED Light		Effective distance: 1.5 m
For Digital Video Camera	Format		DV format (SD mode)
	Signal format		PAL standard
	Recording/Playback format	Video	Digital component recording
		Audio	PCM digital recording, 32 kHz 4-channel (12-BIT), 48 kHz 2-channel (16-BIT)
	Cassette		Mini DV cassette
	Tape speed		SP: 18.8 mm/s, LP: 12.5 mm/s
	Maximum recording time (using 80 min. cassette)		SP: 80 min., LP: 120 min.
For Digital Still Camera	Storage media		SD Memory Card/MultiMediaCard
	Compression system		JPEG (compatible)
	File size		Still image : 3 modes (1280 × 960 pixels/1024 × 768 pixels/640 × 480 pixels)
	Picture quality		2 modes (FINE/STANDARD)
	Approximate number of storable images		pg.27 (INST BOOK)
For Connectors	S	S-Video input	Y: 0.8 to 1.2 V (p-p), 75Ω, analoue C: 0.2 V to 0.4V (p-p), 75Ω, analogue
		S-Video output	Y: 1.0 V (p-p), 75Ω, analogue C: 0.3 V (p-p), 75Ω, analogue
	AV	Video input	0.8V to 1.2V (p-p), 75 kΩ, analogue
		Video output	1.0V (p-p), 75 kΩ, analogue
		Audio input	300 mV (rms), 50kΩ, anaiogue,stereo
		Audio output	300 mV (rms), 1kΩ, anaiogue,stereo

■AC Adapter

Power requirement	AC 110 V to 240 V, 50 Hz/60 Hz
Output	DC 11 V, 1 A

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

SECTION 1
PRECAUTION

Please refer to "GR-D650EX No.YF142" about this section.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 DIFFERENCE LIST

The following table indicate main different points between models GR-D650EX, GR-D650AA, GR-D650AC, GR-D650AG, GR-D650AH and GR-D650AS.

MODEL	GR-D650EX	GR-D650AA	GR-D650AC
AC ADAPTER	AP-V17E	AP-V14E	AP-V14AC
AC CORD	NO	YES(AS/NZS Plug)	YES(CCC Plug)
CONVERSION PLUG	NO	NO	NO

MODEL	GR-D650AG	GR-D650AH	GR-D650AS
AC ADAPTER	AP-V17E	AP-V14E	AP-V14A
AC CORD	NO	YES(CEE Plug)	YES(CEE Plug)
CONVERSION PLUG	NO	YES(Fix to AC Cord)	NO

SECTION 3
DISASSEMBLY

Please refer to "GR-D650EX No.YF142" about this section.

SECTION 4
ADJUSTMENT

Please refer to "GR-D650EX No.YF142" about this section.

SECTION 5
TROUBLESHOOTING

Please refer to "GR-D650EX No.YF142" about this section.

JVC
Victor Company of Japan, Limited
Camcorder Category 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YF143)

Printed in Japan
VPT

PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

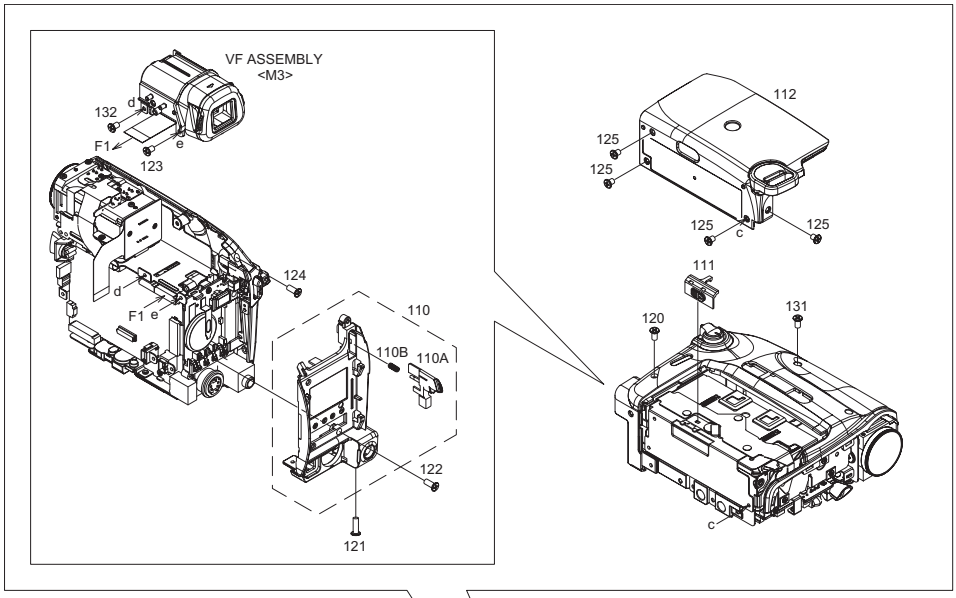
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

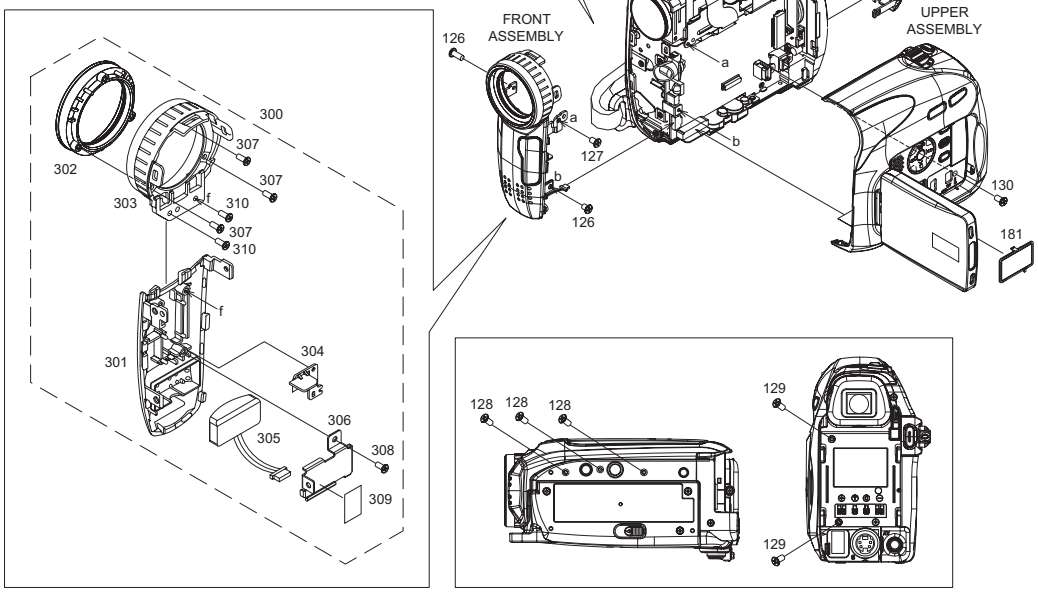
1. EXPLODED VIEW

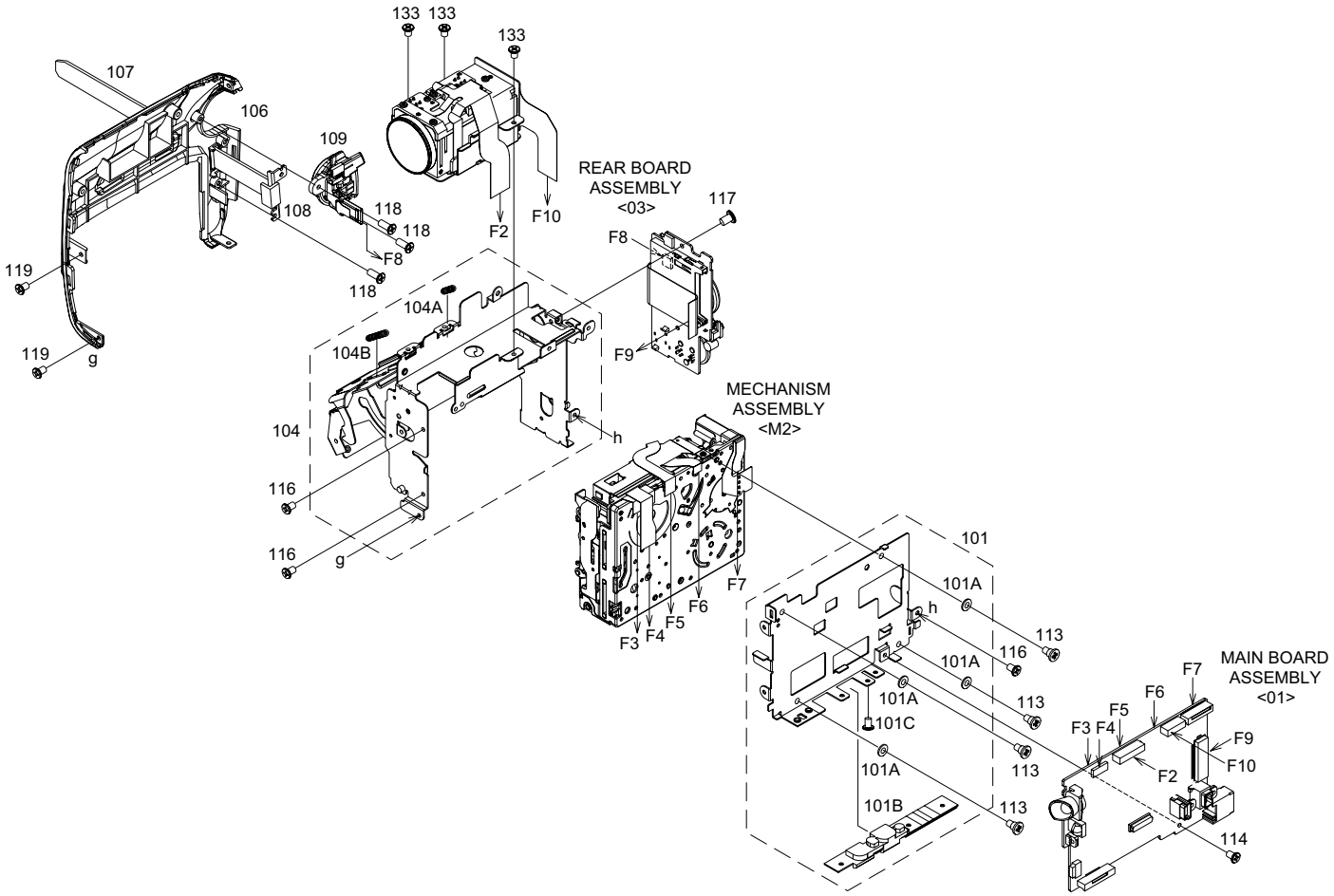
1.1 FINAL ASSEMBLY<M1>

The instruction manual to be provided with this product will differ according to the destination.

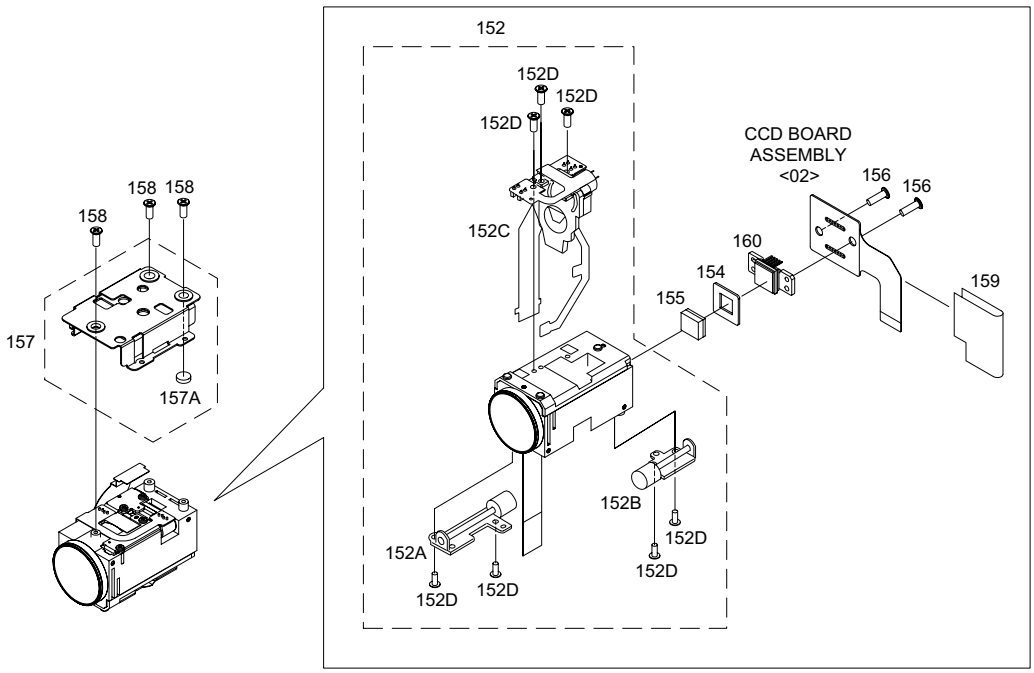


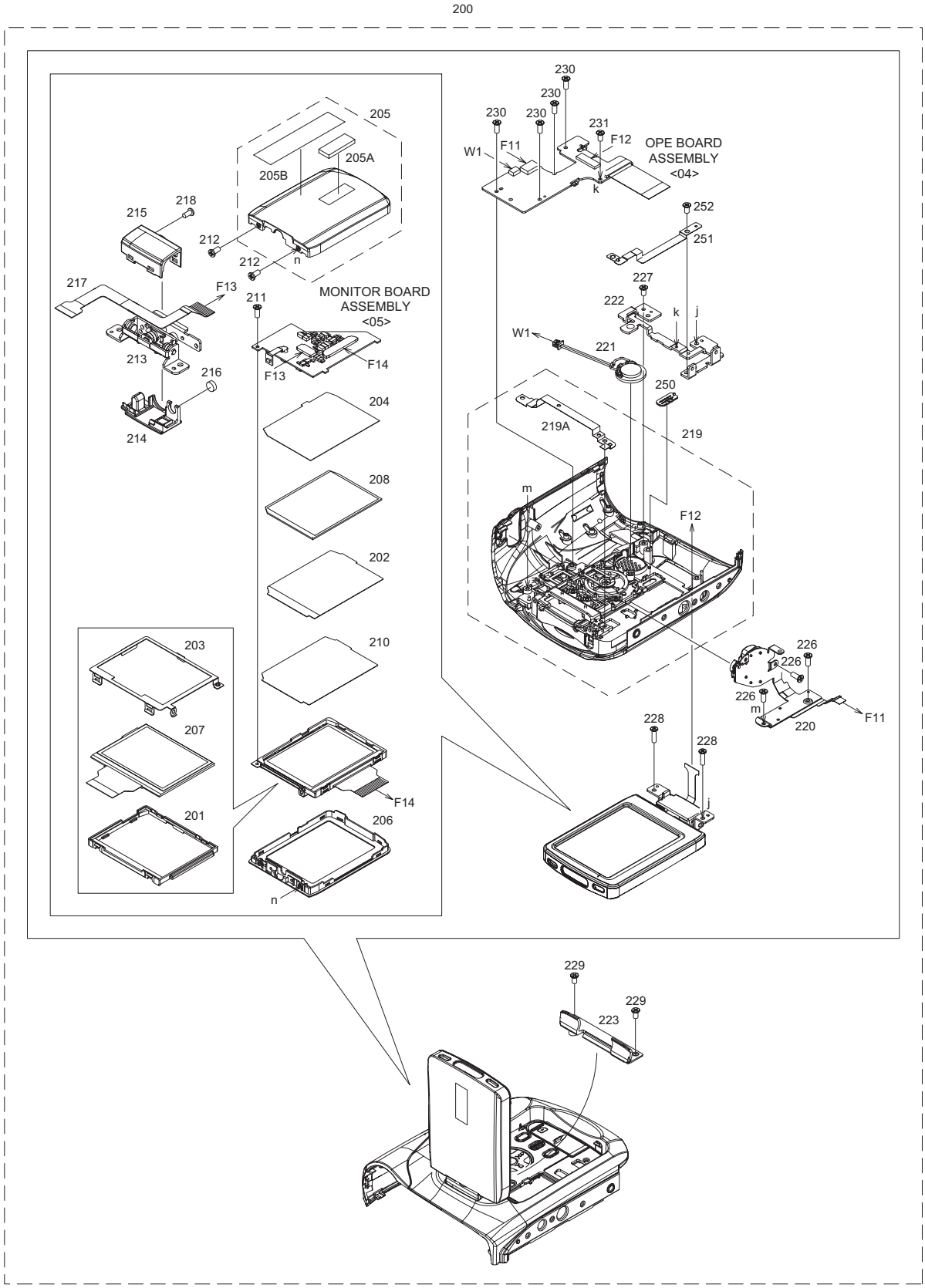
MODEL	MARK
GR-D650AA	A
GR-D650AC	B
GR-D650AG	C
GR-D650AH	D
GR-D650AS	E





OP BLOCK ASSEMBLY




200
205
205A
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MONITOR BOARD
ASSEMBLY
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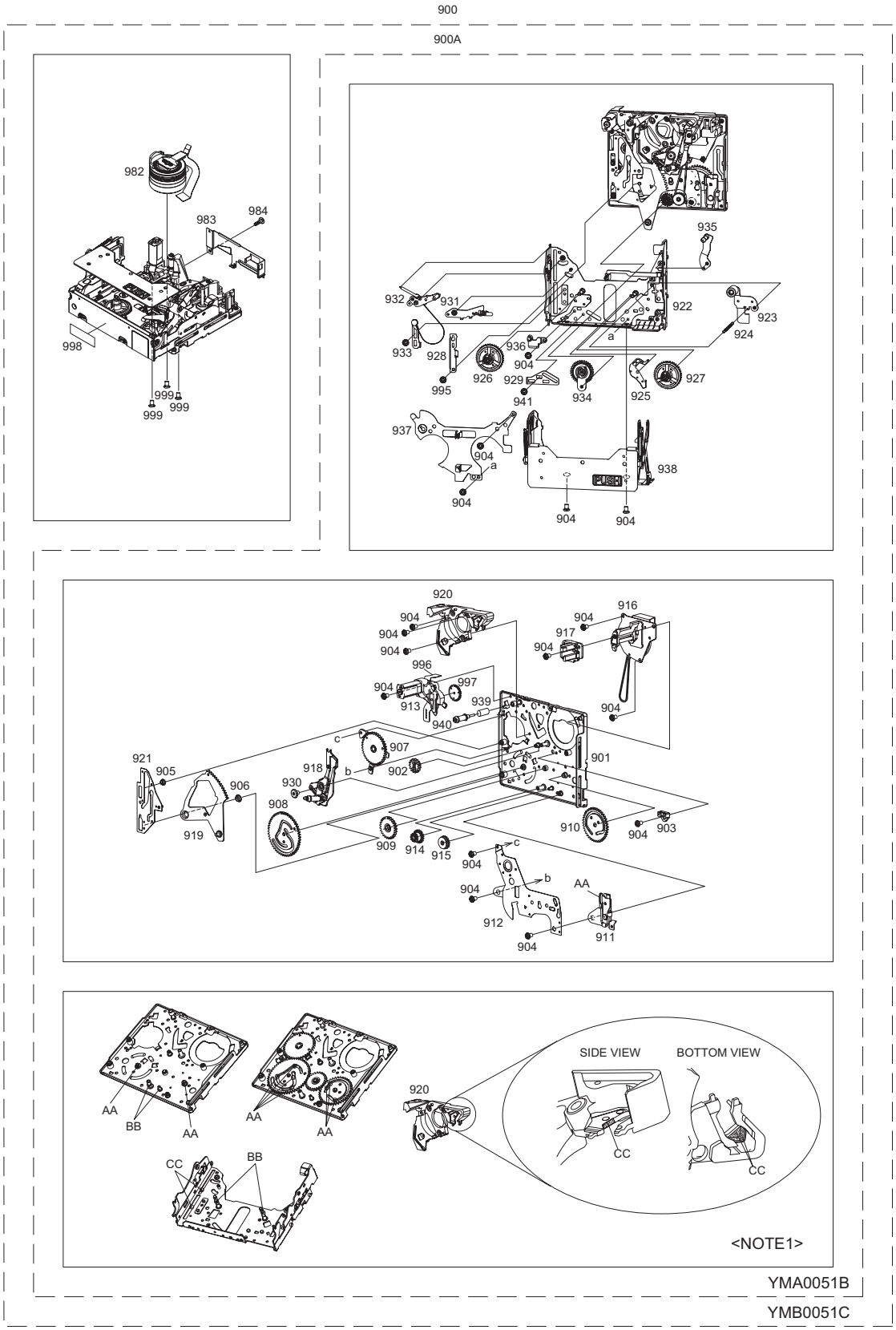
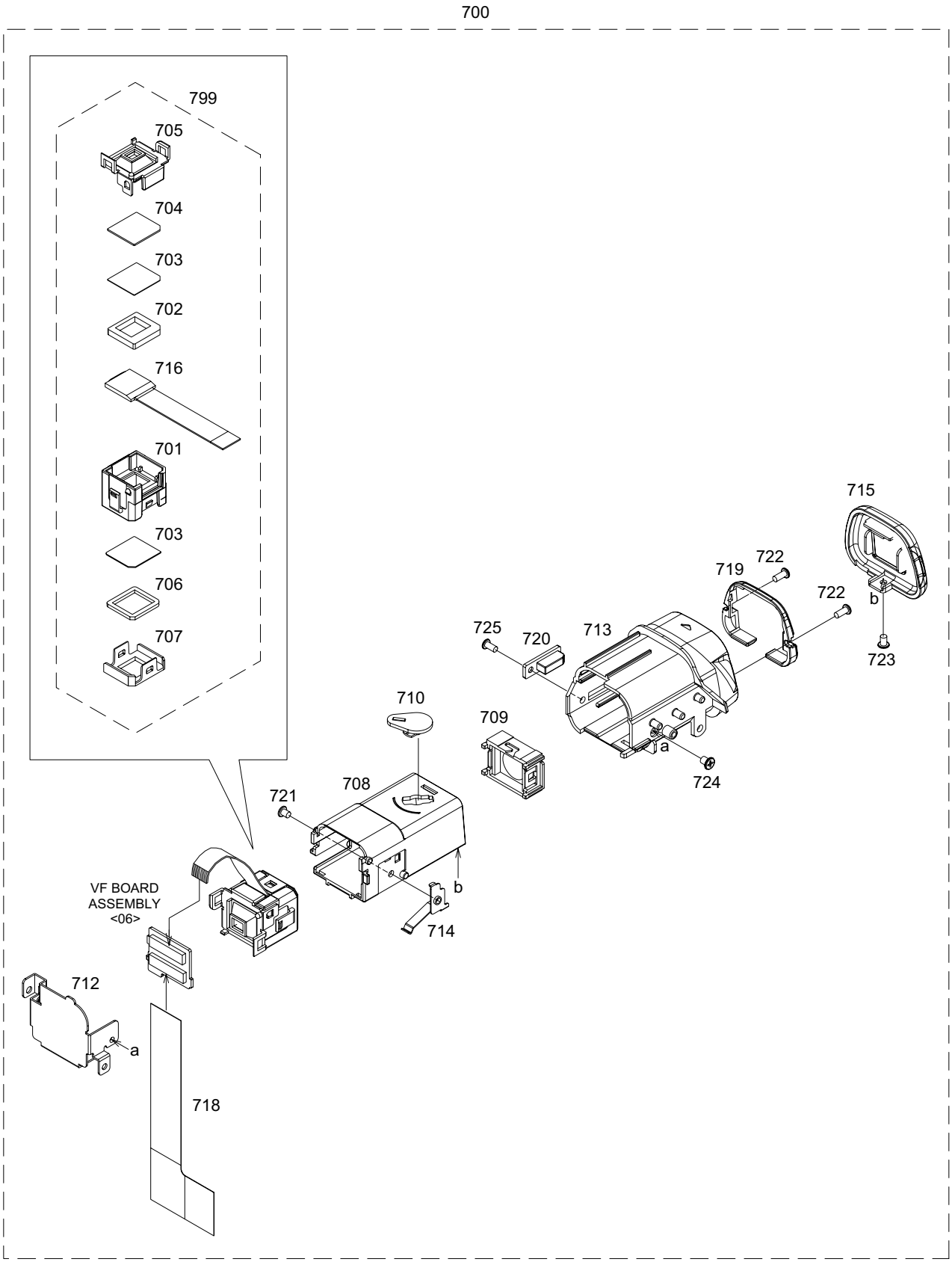
1.2 MECHANISM ASSEMBLY<M2>



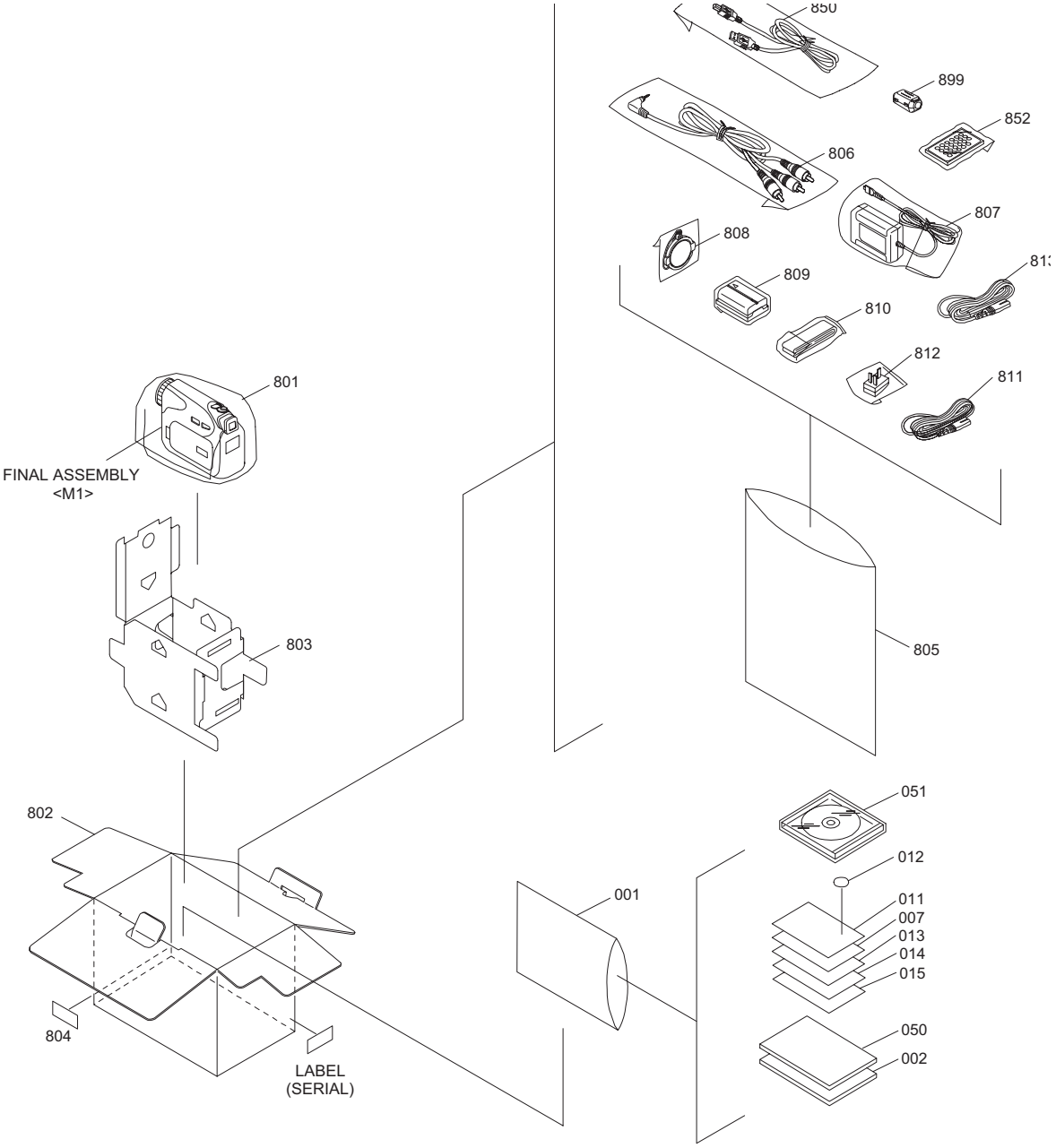
Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

NOTE1: The section marked in AA, BB and CC indicate lubrication and greasing areas.

1.3 VF ASSEMBLY <M3>



1.4 PACKING AND ACCESSORY ASSEMBLY <M5>



MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

2. PARTS LIST

FINAL ASSEMBLY <M1>

⚠ Symbol No.	Part No.	Part Name	Description	Local
101	LY35130-001D	FRAME ASSY		A,B,C,D
101	LY35130-001D-ML	FRAME ASSY	JPN	E
101A	LY45033-001B	BUSH	(x4)	
101B	LY35129-001B	TRIPOD (BASE)		
101C	LY30031-0D4A	SPECIAL SCREW	FRM-TRIP	
104	LY21444-002D	MAIN BKT ASSY		A,B,C,D
104	LY21444-002D-ML	MAIN BKT ASSY	JPN	E
104A	LY45170-001C	TENSION SPRING		
104B	LY30002-074A	COMPRESSION SPRING		
106	LY21459-001C	LOWER CASE		A,B,C,D
106	LY21459-001C-ML	LOWER CASE	JPN	E
107	LY21320-003A	GRIP BELT		
108	LY45121-001A	BKT (G.BELT)		A,B,C,D
108	LY45121-001A-ML	BKT (G.BELT)	JPN	E
109	LY21431-001B	POWER UNIT		A,B,C,D
109	LY21431-001B-ML	POWER UNIT	JPN	E
⚠ 110	LY35115-002D	REAR COVER ASSY		A,B,C,D
110	LY35115-002D-ML	REAR COVER ASSY	JPN	E
110A	LY35137-001A	KNOB (BATT.)		
110B	LY30002-068A	COMPRESSION SPRING		
111	LY35131-001A	KNOB (EJECT)		A,B,C,D
111	LY35131-001A-ML	KNOB (EJECT)	JPN	E
112	LY21446-001E	CASS.COVER		A,B,C,D
112	LY21446-001E-ML	CASS.COVER	JPN	E
113	LY30032-002A	SPECIAL SCREW	FRM-MECHA(x4)	
114	LY30031-0K7A	SPECIAL SCREW	M.PWB-FRM	
116	LY30031-0H5A	SPECIAL SCREW	FRM-M.BKT(x3)	
117	LY30031-0K7A	SPECIAL SCREW	R.PWB-BKT	
118	LY30031-0L8B	SPECIAL SCREW	POWER UNIT(x3)	
119	LY30031-0H5A	SPECIAL SCREW	LOWER-MBKT(x2)	
120	LY30031-0A3A	SPECIAL SCREW	LOWER-REAR	
121	LY30031-0D4A	SPECIAL SCREW	REAR-M.BKT	
122	LY30031-0D5A	SPECIAL SCREW	REAR-M.BKT	
123	LY30031-0K7A	SPECIAL SCREW	VF-M.BKT	
124	LY30031-0A3A	SPECIAL SCREW	LOWER-VF	
125	LY30031-0H5A	SPECIAL SCREW	CASS.COVER(x4)	
126	LY30031-0D5A	SPECIAL SCREW	FRONT-MBKT(x2)	
127	LY30031-0H5A	SPECIAL SCREW	FRONT-MBKT	
128	LY30031-0D5A	SPECIAL SCREW	UPPER-TRI(x3)	
129	LY30031-0A3A	SPECIAL SCREW	REAR-UPPER(x2)	
130	LY30031-0K7A	SPECIAL SCREW	DV JACK	
131	LY30031-0D5A	SPECIAL SCREW	LOWER-ZOOM	
132	LY30031-0H5A	SPECIAL SCREW	VF-M.BKT	
133	LY30031-0H5A	SPECIAL SCREW	BKTOP-MBKT(x3)	
152	J4M-103C	OP BLOCK ASSY	SET030-290	A,B,C,D
152	J4M-103B	OP BLOCK ASSY	SET030-290	E
152A	LY34842-001A	ZOOM MOTOR		
152B	LY34841-001A	FOCUS MOTOR		
152C	LY34843-003A	IRIS MOTOR UNIT		
152D	QYSPSGU1440ZA	TAP SCREW	M1.4 x 4mm(x7)	
154	LY44653-001A	SHEET	SET010/011	
155	LY45183-001A	OPTICAL LPF	SET010/011	
156	QYSPSGT1750RA	TAP SCREW	SET010/011 M1.7 x 5mm(x2)	
157	LY35267-001A-ML	BKT(OP 1M)ASSY	JPN	
157A	LY35192-001A	CUSHION(OP MEGA)		
158	LY30031-011A	SPECIAL SCREW	(x3)	
159	LY35197-001A	BUSTERAID(CCD)	EMC	
160	LYH30676-001A	CCD BASAE ASSY		
181	LY35149-001C	COVER (JIG)		A,B,C,D
181	LY35149-001C-ML	COVER (JIG)	JPN	E
182	LY35150-001A	COVER (ADJ)		A,B,C,D
182	LY35150-001A-ML	COVER (ADJ)	JPN	E
183	LY35138-001B	COVER (JACK)		A,B,C,D
183	LY35138-001B-ML	COVER (JACK)	JPN	E
⚠ 200	UU06D206A	U.UNIT ASSY		
201	LY21452-001B	LCD CASE		
202	LY45123-001A	SHEET(M.DIFF)		
203	LY35160-001A	S.CASE (MONI)		
204	LY45125-001A	SHEET(M.REF)		
205	LY35206-001C	M.COVER ASSY		
205A	LY45126-001B	JVC MARK		
205B	LY45160-001A	POP STICKER		
206	LY21450-001D	MONITOR CASE		
207	QLD0357-001	LCD MODULE		
208	LY45124-001A	LIGHT GUIDE		
210	LY45152-001A	SHEET(BEF)		
211	LY30031-0K7A	SPECIAL SCREW	MONI.PWB	
212	LY30031-0K7A	SPECIAL SCREW	MONI.CASE(x2)	
213	LY35157-001C	HINGE ASSY		
214	LY35159-001B	H.COVER(L)		
215	LY35158-001B	H.COVER(U)		
216	LY42355-001A	P.C.MAGNET		
217	QAL0784-001	FPC	MONI-FPC	
218	LY30031-0A3A	SPECIAL SCREW	HINGE	
⚠ 219	LY21469-005D	U.CASE ASSY(1M)		
219A	LY35186-001B	SHEET(SHILD)		
220	LY21495-001A	ZOOM UNIT		
221	QAS0284-002	SPEAKER		
222	LY35146-001A	BKT.(HINGE)		
223	LY35147-001B	COVER (HINGE)		
226	LY30031-003A	SPECIAL SCREW	ZOOM UNIT(x3)	
227	LY30031-003A	SPECIAL SCREW	BKT HINGE	
228	LY30031-054A	SPECIAL SCREW	MONI HINGE(x2)	
229	LY30031-0H5A	SPECIAL SCREW	CVR HINGE(x2)	
230	LY30031-003A	SPECIAL SCREW	OPEPWB-UPP(x4)	
231	LY30031-0H5A	SPECIAL SCREW	OPEPWB-BKT	
250	LY35148-001B	KNOB (SLIDE)		
251	LY35387-001A	EARTH PLATE		

MECHANISM ASSEMBLY <M2>

⚠ Symbol No.	Part No.	Part Name	Description	Local
900	YMB0051C	MECHA(B)ASSY		
900A	YMA0051B	MECHA(A)ASSY		
901	LY10525-001F	MAIN DECK ASSY		
902	LY34335-001B	LOADING GEAR 1		
903	LY34338-001A	BELT GUIDE		
904	LY34229-001A	MINI SCREW	(x16)	
905	LY44973-001B	SLIDE COLLAR 1		
906	LY44974-001B	SLIDE COLLAR 2		
907	QSW1116-002	ROTARY ENCODER		
908	LY21263-001B	MAIN CAM		
909	LY34319-001A	CONNECT GEAR		
910	LY34320-001A	SUB CAM		
911	LY34321-001B	PRESS ARM ASSY		
912	LY21264-001C	GEAR COVER		
913	LY34315-001E	M.BRACKET ASSY		
914	LY34337-001A	CENTER GEAR		
915	LY34336-001A	REEL PULLEY		
916	QAR0338-002	CAPSTAN MOTOR		
917	LY21270-001A	T5 CATCHER		
918	LY21266-001G	GUIDE RAIL ASSY		
919	LY34325-001B	DRIVE ARM ASSY		
920	LY10530-001E	DRUM BASE		
921	LY34326-001E	T.C.PLATE ASSY		
922	LY21271-005A	SLIDE DECK ASSY		
923	LY34345-001A	P.R.ARM ASSY		
924	LY44764-001B	TEN.SPRING(P.R)		
925	LY34348-001A	BRAKE PLATE		
926	LY34349-001D	REEL DISK ASSY		
927	LY34349-002B	REEL DISK ASSY		
928	LY34342-001A	GUIDE PLATE		
929	LY34340-001A	SLIDE GUIDE PLT		
930	LY34229-005A	MINI SCREW		
931	LY34358-001G	S1 ARM ASSY		
932	LY21273-001K	T.ARM ASSY		
933	LY43675-007A	MINI SCREW		
934	LY34355-001B	IDLER ARM ASSY		
935	LY34343-001B	T5 ARM ASSY		
936	LY34341-001B	CASSETTE GUIDE		
937	LY34365-001E	REEL COVER ASSY		
938	LY10531-001K	HOUSING ASSY		
939	LY44734-001B	COMP.SPRING		
940	LY34314-001A	G.ROLLER(S)ASSY		
941	LY45076-001A	TRUSTER SCREW		
982	YDV2104H-CX	DRUM ASSY	Y08489-02	
983	LY10599-001A	PROTECTOR		

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
984	LY34229-006A	MINI SCREW		
995	LY34229-010A	MINI SCREW		
996	LY34676-002A	MOTOR FPC ASSY		
997	LY34318-001A	WORM WHEEL		
998	LY44890-001A	LABEL(HOUSING)		
999	LY34229-006A	MINI SCREW	(x3)	

VF ASSEMBLY <M3>

⚠ Symbol No.	Part No.	Part Name	Description	Local
700	VU06D201A	V.UNIT ASSY	FOR JAPAN	
701	LY21442-001C	HOLDER (LCD)		
702	LY45116-001A	CUSHION (1)		
703	LY45118-001A	SHEET (POLA)	(x2)	
704	LY45119-001A	SHEET (DIFF.)		
705	LY35123-001B	CASE (B.LIGHT)		
706	LY45117-001A	CUSHION (2)		
707	LY35124-001A	STOPPER (POLA)		
708	LY21441-001E	CASE (VF)		
709	LY45114-001A	LENS ASSY		
710	LY35121-001B	LEVER (VF)		
712	LY35189-001A	BKT(COVER)VF		
713	LY21465-001B	COVER(SLIDE)VF		
714	LY35126-001C	CLICK PLATE		
715	LY35119-001C	EYE CUP		
716	QLD0363-001	LCD MODULE		
718	QAL0783-001	FPC	VF FPC	
719	LY35169-001D	COVER (EYE CUP)		
720	LY35168-001C	KNOB (SWITCH)		
721	LY30031-0H5A	SPECIAL SCREW		
722	LY30031-003A	SPECIAL SCREW	CVREYECUP(x2)	
723	LY30031-057A	SPECIAL SCREW	EYECUP	
724	LY30031-0H5A	SPECIAL SCREW	BKT.COVER	
725	LY30031-0K7A	SPECIAL SCREW	KNOB SW	
799	LY35122-001C	LCD UNIT ASSY		

PACKING AND ACCESSORY ASSEMBLY <M5>

⚠ Symbol No.	Part No.	Part Name	Description	Local
001	LY34452-001A	POLY BAG	DOCUMENT	
⚠ 002	LYT1592-001A	INST BOOK(EN)	(ENGLISH)	A
⚠ 002	LYT1593-001A	INST BOOK(EN.CS)	(ENGLISH SIMPLIFIED CHINESE)	C
⚠ 002	LYT1593-002A	INST BOOK(AR)	(ARABIC)	C
⚠ 002	LYT1594-001A	INST BOOK(EN.GE)	(ENGLISH GERMAN)	E
⚠ 002	LYT1594-002A	INST BOOK(FR.RU)	(FRENCH RUSSIAN)	E
⚠ 002	LYT1594-003A	INST BOOK(AR.PE)	(ARABIC PERSIAN)	E
⚠ 002	LYT1595-001A	INST BOOK(CS)	(SIMPLIFIED CHINESE)	B
⚠ 002	LYT1596-001A	INST BOOK(EN.CS)	(ENGLISH SIMPLIFIED CHINESE)	D
007	BT-59021-6CAM	SVC CENTER LIST		B
011	----------	WARRANTY CARD	BT-59019-1CAM	B
012	BT-59020-1	HOLOGRAM SEAL		B
013	----------	WARRANTY CARD	BT-56016-1	A
014	YU30552-135	QUEST.CARD		B
015	----------	WARRANTY CARD	BT-56017-1	A
050	LYT1520-006A	INST BOOK(SOFT.EN)	(SOFT.ENGLISH)	A
050	LYT1520-007A	INST BOOK(SOFT.CS)	(SOFT.SIMPLIFIED CHINESE)	B
050	LYT1520-008A	INST BOOK(SOFT.ENCSAR)	(SOFT.ENGLISH SIMPLIFIED CHINESE ARABIC)	C
050	LYT1520-009A	INST BOOK(SOFT.EN.CS)	(SOFT.ENGLISH SIMPLIFIED CHINESE)	D
050	LYT1520-010A	IB(SOFT.ASLANG)	(SOFT.ASLANG)	E
051	LY35273-005A	CD ROM ASSY		
801	LY30023-003A	POLY BAG		
802	LY35151-020A	PACKING CASE	PRODUCTION	A,C,E
802	LY35151-021A	PACKING CASE	PRODUCTION	B,D
803	LY35188-001A	CUSHION		B,D
803	LY35188-001A-ML	CUSHION	JPN	A,C,E
804	LY45161-002A	LABEL		B,D
804	LY45161-002A-ML	LABEL	JPN	A,C,E
805	QPA02503505P	POLY BAG	ACC. 25cm x 35cm	
806	QAM0508-001	A/V CABLE		
⚠ 807	LY21104-001E	AC ADAPTER	AP-V14E	A,D
⚠ 807	LY21104-002C	AC ADAPTER	AP-V14A	E
⚠ 807	LY21104-003D	AC ADAPTER	AP-V14AC	B
⚠ 807	LY21343-001B	AC ADAPTER	AP-V17E	C
808	LY34811-001B-ML	HOOD CAP ASSY	JPN	E
808	LY34811-001C	HOOD CAP ASSY		A,B,C,D
⚠ 809	LY34647-002B	BATTERY PACK	BN-VF707U	
810	LY21397-002A	SHOULDER STRAP		
⚠ 811	QMPH040-190-JR	POWER CORD	AS/NZS	A
⚠ 811	QMPL270-190-JR	POWER CORD	CEE 1.9m BLACK	E
⚠ 811	QMPS260-190-JR	POWER CORD	CCC 1.9m BLACK	B
⚠ 812	QAM0001-001	CONVERSION PLUG	FIX AC CO.	D
⚠ 813	QMPL270-190-JR	POWER CORD	CEE 1.9m BLACK	D
850	QAM0719-001	USB CABLE	USB	
852	LY21503-002A	REMOTE CTL UNIT	RM-V740US	
899	QQR0491-002	FERRITE CORE	USB TDK (BLACK)	

MAIN BOARD ASSEMBLY <01>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA10078-05C	MAIN BOARD ASSY		A
PW1	LYA10078-07C	MAIN BOARD ASSY		B,C,D
PW1	LYA10078-07B	MAIN BOARD ASSY		E
IC1001	MN103S97NBF	IC(MICRO C ROM)	MASK	
IC1001 or	MN103SF66RBF	IC(MICRO C ROM)	FLASH	
IC1002	MB90099PFV138EX	IC(MICRO C ROM)	OSD EX	A
IC1002	BU3095-0EFV-X	IC	OSD AC	B,C,D,E
IC1004	NJU7108F3-X	IC		
IC1004 or	TC75S56FU-X	IC		
IC1005	BR25L640F-W-X	IC	EEP 64K	
IC1006	RS5C314-X	IC		
IC1007	S-80823CNNB-G-W	IC		
IC1008	KSM-2003SN2E	IR DETECT UNIT	IRU	
IC1601	BD6637KV	IC	MDA 64PIN	
IC1701	BA10358FVM-W	IC	REELAMP5V	
IC1702	BA2903FVM-W	IC	REELSMT	
IC2201	AK4664VQ	IC	48P0.5	
IC3001	JCY0220	IC		
IC3006	MM3142FN-X	IC	2.5V_REG	
IC3501	JCY0132	IC		
IC3701	BH7612FV-X	IC		
IC3731	MM1504XN-X	IC		
IC4201	HD49340HNP-X	IC	CDS/AD	
IC4202	MM1613BN-X	IC	REG 3.1V	
IC4901	JCY0223-X	IC		
IC5501	CXD3643R	IC	TG/V VRV	
IC5502	MM1613DN-X	IC	3.3V REG	
IC6001	FA7737F	IC		
IC8001	TMS320DSC24GHKL	IC	DSC24	
IC8002	K4S643232H-UC60	IC	64MSDRAM	
IC8003	MR27T3202L058LA	IC(MICRO C ROM)	MP P2ROM	
IC8003 or	SG32A90BFIR4C39	IC(MICRO C ROM)	AP FLASH	
IC8801	TSB41AB1ZQE-X	IC		
Q1001	DTA114EE-X	DIGI TRANSISTOR		
Q1001 or	BCR183T-X	DIGI TRANSISTOR		
Q1001 or	KRA302E-X	DIGI TRANSISTOR		
Q1001 or	RT1P141U-X	DIGI TRANSISTOR		
Q1001 or	PDTA114EE-X	DIGI TRANSISTOR		
Q1002	DTA143XE-X	DIGI TRANSISTOR		
Q1003	DTA143XE-X	DIGI TRANSISTOR		
Q1004	DTC143XE-X	DIGI TRANSISTOR		
Q1005	DTC143XE-X	DIGI TRANSISTOR		
Q1005 or	UN921FJ-X	DIGI TRANSISTOR		
Q1005 or	KRC419E-X	DIGI TRANSISTOR		
Q1005 or	RT1N432U-X	DIGI TRANSISTOR		
Q1006	2SC4617/QR/-X	TRANSISTOR		
Q1006 or	BC847BT-X	TRANSISTOR		
Q1006 or	2SD2216J/QR/-X	TRANSISTOR		
Q1006 or	2SC5383/E/-X	TRANSISTOR		
Q1006 or	2SC4738/YG/-X	TRANSISTOR		
Q1007	DTC124EE-X	DIGI TRANSISTOR		
Q1007 or	BCR141T-X	DIGI TRANSISTOR		
Q1007 or	KRC403E-X	DIGI TRANSISTOR		
Q1007 or	RT1N241U-X	DIGI TRANSISTOR		
Q1007 or	PDTC124EE-X	DIGI TRANSISTOR		

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠	Symbol No.		Part No.	Part Name	Description	Local
	Q1008		UMZ1N-W	PAIR TRANSISTOR		
	Q1008	or	PUMZ1-W	PAIR TRANSISTOR		
	Q1008	or	XP4601-W	TRANSISTOR		
	Q1601		UMC3N-W	DIGI TRANSISTOR	LD ON	
	Q2403		2SC4617/QR/-X	TRANSISTOR		
	Q2403	or	BC847BT-X	TRANSISTOR		
	Q2403	or	2SD2216J/QR/-X	TRANSISTOR		
	Q2403	or	2SC5383/E/-X	TRANSISTOR		
	Q2403	or	2SC4738/YG/-X	TRANSISTOR		
	Q3702		UMZ1N-W	PAIR TRANSISTOR		
	Q3702	or	PUMZ1-W	PAIR TRANSISTOR		
	Q3702	or	XP4601-W	TRANSISTOR		
	Q3703		DTC114EE-X	DIGI TRANSISTOR		
	Q3704		DTC114EE-X	DIGI TRANSISTOR		
	Q3731		2SC5658/QRS/-X	TRANSISTOR		
	Q3734		2SC5658/QRS/-X	TRANSISTOR		
	Q3735		2SA2029/QRS/-X	TRANSISTOR		
	Q3736		DTC144EE-X	DIGI TRANSISTOR		
	Q3737		EMX1-W	TRANSISTOR		
	Q3738		EMZ1-W	PAIR TRANSISTOR		
	Q3739		UMZ1N-W	PAIR TRANSISTOR		
	Q3739	or	PUMZ1-W	PAIR TRANSISTOR		
	Q3739	or	XP4601-W	TRANSISTOR		
	Q4901		RPM-22PB	PHOTO TRANSISTOR	WB SENSER	
	Q6101		US5U29-W	MOS FET		
	Q6103		FDN360P-X	MOS FET		
	Q6201		US5U29-W	MOS FET		
	Q6301		US5U29-W	MOS FET		
	Q6401		US5U29-W	MOS FET		
	Q6501		FDN360P-X	MOS FET		
	Q6505		2SA1774/QR/-X	TRANSISTOR		
	Q6505	or	BC857BT-X	TRANSISTOR		
	Q6505	or	2SA1989/QR/-X	TRANSISTOR		
	Q6701		FDN360P-X	MOS FET		
	Q6702		FDN360P-X	MOS FET		
	Q6703		FDN360P-X	MOS FET		
	Q7701		PUMX1-W	PAIR TRANSISTOR		
	Q7701	or	BC847S-X	PAIR TRANSISTOR		
	Q7701	or	KTC801U/G/-X	PAIR TRANSISTOR		
	Q7701	or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
	Q7701	or	UMX1N-W	PAIR TRANSISTOR		
	Q7702		PUMX1-W	PAIR TRANSISTOR		
	Q7702	or	BC847S-X	PAIR TRANSISTOR		
	Q7702	or	KTC801U/G/-X	PAIR TRANSISTOR		
	Q7702	or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
	Q7702	or	UMX1N-W	PAIR TRANSISTOR		
	Q7703		PUMX1-W	PAIR TRANSISTOR		
	Q7703	or	BC847S-X	PAIR TRANSISTOR		
	Q7703	or	KTC801U/G/-X	PAIR TRANSISTOR		
	Q7703	or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
	Q7703	or	UMX1N-W	PAIR TRANSISTOR		
	Q7704		UMD3N-W	DIGI TRANSISTOR		
	Q7704	or	XP4311-W	TRANSISTOR		
	Q7704	or	RT3T11M-X	DIGI TRANSISTOR		
	Q7704	or	KRX201U-X	DIGI TRANSISTOR		
	Q7801		PUMX1-W	PAIR TRANSISTOR		
	Q7801	or	BC847S-X	PAIR TRANSISTOR		
	Q7801	or	KTC801U/G/-X	PAIR TRANSISTOR		
	Q7801	or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
	Q7801	or	UMX1N-W	PAIR TRANSISTOR		
	Q7802		PUMX1-W	PAIR TRANSISTOR		
	Q7802	or	BC847S-X	PAIR TRANSISTOR		
	Q7802	or	KTC801U/G/-X	PAIR TRANSISTOR		
	Q7802	or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
	Q7802	or	UMX1N-W	PAIR TRANSISTOR		
	Q7803		PUMX1-W	PAIR TRANSISTOR		
	Q7803	or	BC847S-X	PAIR TRANSISTOR		
	Q7803	or	KTC801U/G/-X	PAIR TRANSISTOR		
	Q7803	or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
	Q7803	or	UMX1N-W	PAIR TRANSISTOR		
	Q7808		UMD3N-W	DIGI TRANSISTOR		
	Q7808	or	XP4311-W	TRANSISTOR		
	Q7808	or	RT3T11M-X	DIGI TRANSISTOR		
	Q7808	or	KRX201U-X	DIGI TRANSISTOR		
	Q8002		BCR183T-X	DIGI TRANSISTOR		
	Q8002	or	DTA114EE-X	DIGI TRANSISTOR		
	Q8002	or	KRA302E-X	DIGI TRANSISTOR		
	Q8002	or	RT1P141U-X	DIGI TRANSISTOR		
	Q8002	or	PDTA114EE-X	DIGI TRANSISTOR		
	D1001		DA221-X	DIODE ARRAY		
	D1001	or	MA133-X	SI DIODE		
	D1001	or	KDS221E-X	SI DIODE		
	D1003		NSPW500CS/C0TU/	LED		
	D1603		DAP222-X	DIODE ARRAY	LD ON	
	D1603	or	MA132WA-X	SI DIODE		
	D3001		EC2C01C-TR-X	VARI CAP DIODE		
	D3002		EC2C01C-TR-X	VARI CAP DIODE		
	D5501		1SS355-X	SI DIODE		
	D5501	or	MA111-X	SI DIODE		
⚠	D6001		RB715W-X	SB DIODE		
	D6503		1SS355-X	SI DIODE		
	D6503	or	MA111-X	SI DIODE		
	D6503	or	1SS352-X	SI DIODE		
	D6504		1SS355-X	SI DIODE		
	D6504	or	MA111-X	SI DIODE		
	D6504	or	1SS352-X	SI DIODE		
	D6505		1SS355-X	SI DIODE		
	D6505	or	MA111-X	SI DIODE		
	D6505	or	1SS352-X	SI DIODE		
	D6506		1SS355-X	SI DIODE		
	D6506	or	MA111-X	SI DIODE		
	D6506	or	1SS352-X	SI DIODE		
	D6507		UDZS8.2B-X	Z DIODE		
	D6701		RB160M-30-X	SB DIODE		
	D6702		RB160M-30-X	SB DIODE		
	D6801		RB551V-30-X	SB DIODE		
	D6801	or	KDR412-X	SB DIODE		
	D8801		RB551V-30-X	SB DIODE		
	D8801	or	KDR412-X	SB DIODE		
	C1001		NDCA1HJ-7R0W	C CAPACITOR	7pF 50V J	
	C1002		NDCA1HJ-7R0W	C CAPACITOR	7pF 50V J	
	C1003		NDCA1HJ-7R0W	C CAPACITOR	7pF 50V J	
	C1004		NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
	C1005		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1006		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1007		NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
	C1008		NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
	C1009		NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
	C1010		NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
	C1013		NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
	C1018		NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
	C1023		NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
	C1024		NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
	C1025		NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
	C1029		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1031		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1032		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1033		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1035		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1036		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1038		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1039		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1040		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1043		NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
	C1044		NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
	C1046		NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
	C1049		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1051		NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
	C1052		NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
	C1053		NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
	C1054		NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
	C1055		NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
	C1056		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1601		NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
	C1602		NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
	C1603		NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
	C1605		NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
	C1606		NCBA1HK-152W	C CAPACITOR	1500pF 50V K	
	C1607		NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
	C1614		NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
	C1618		NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
	C1619		NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
	C1620		NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
	C1621		NCB30JK-105X	C CAPACITOR	1uF 6.3V K	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AC	B	GR-D650AS	E
GR-D650AG	C	GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C1622	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C1623	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C1624	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1625	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C1626	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C1627	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C1628	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C1629	NCB21EK-224X	C CAPACITOR	0.22uF 25V K	
C1630	NCB21EK-224X	C CAPACITOR	0.22uF 25V K	
C1631	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C1632	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	
C1633	NCB30JK-474X	C CAPACITOR	0.47uF 6.3V K	
C1637	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C1702	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2202	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2203	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2204	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2205	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2209	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2210	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2217	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2223	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2224	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2402	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2403	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2404	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C2405	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2406	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2407	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2603	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C2604	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C2605	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C2606	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C2611	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2612	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2613	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2623	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
C2624	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
C2655	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C2656	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3001	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3002	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3003	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3004	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3005	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3006	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3007	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3008	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3009	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3010	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3011	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3012	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3024	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C3027	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3028	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3029	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3030	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3031	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3034	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3035	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3036	NDCA1HJ-560W	C CAPACITOR	56pF 50V J	
C3037	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3039	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3040	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3042	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3043	NDCA1HJ-560W	C CAPACITOR	56pF 50V J	
C3044	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3045	NCBA1HK-471W	C CAPACITOR	470pF 50V K	
C3046	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3047	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3048	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3055	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3056	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3057	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3065	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3067	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3071	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
C3079	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3080	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3084	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3085	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3088	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3089	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3090	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3091	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3092	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3093	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3094	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3095	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3096	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3097	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3098	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3099	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3101	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3102	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3127	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
C3128	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
C3504	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3505	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C3506	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3507	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3508	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3509	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C3510	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3511	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3512	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3513	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C3514	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3515	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3516	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3517	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3518	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3519	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3520	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3521	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3522	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C3523	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3524	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3525	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C3526	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3527	NDCA1EJ-221W	C CAPACITOR	220pF 25V J	
C3701	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3706	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3707	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3708	NBE20GM-226X	TA E CAPACITOR	22uF 4V M	
C3709	NBE20GM-226X	TA E CAPACITOR	22uF 4V M	
C3710	NBE20GM-107X	TA E CAPACITOR	100uF 4V M	
C3711	NBE20GM-107X	TA E CAPACITOR	100uF 4V M	
C3712	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3714	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3731	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3732	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3733	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	
C3734	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	
C3735	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	
C3736	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3738	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3739	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3740	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3741	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3742	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3743	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	
C3744	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	
C3745	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	
C3746	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C3747	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3751	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4201	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4202	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4203	NCBA1CK-123W	C CAPACITOR	0.012uF 16V K	
C4204	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4205	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4206	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C4207	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4208	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C4209	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C4210	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C4211	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4212	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4215	NBE90GM-336X	TA E CAPACITOR	33uF 4V M	
C4216	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4217	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C4218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4219	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C4220	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C4902	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C4903	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C4905	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4906	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4907	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4908	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4909	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C4911	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C4912	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4913	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4914	NDCA1HJ-680W	C CAPACITOR	68pF 50V J	
C4915	NDCA1HJ-121W	C CAPACITOR	120pF 50V J	
C4916	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4917	NCB31AK-224X	C CAPACITOR	0.22uF 10V K	
C4922	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4932	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C4935	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C5501	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5502	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5503	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5504	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5505	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5506	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5507	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5508	NBP21VM-105X	TA E CAPACITOR	1uF 35V M	
C5509	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5510	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C5511	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5512	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C5513	NBE90JM-226X	TA E CAPACITOR	22uF 6.3V M	
C5514	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5515	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C5516	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5517	NBP21CM-106X	TA E CAPACITOR	10uF 16V M	
C5518	NBP21CM-106X	TA E CAPACITOR	10uF 16V M	
C5519	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5520	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5521	NBZ0003-475X	TA E CAPACITOR	4.7uF 20V M	
C5522	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5523	NBZ0003-475X	TA E CAPACITOR	4.7uF 20V M	
C5524	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6005	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6006	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6007	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6008	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6009	NCB31AK-224X	C CAPACITOR	0.22uF 10V K	
C6010	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6011	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6101	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6102	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C6103	NCBA1HK-221W	C CAPACITOR	220pF 50V K	
C6104	NCBA1HK-681W	C CAPACITOR	680pF 50V K	
C6105	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6106	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6107	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C6202	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C6203	NCBA1HK-681W	C CAPACITOR	680pF 50V K	
C6204	NCBA1HK-221W	C CAPACITOR	220pF 50V K	
C6301	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6302	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6303	NCBA1AK-683W	C CAPACITOR	0.068uF 10V K	
C6305	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6402	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6403	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6405	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6501	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6502	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6503	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6505	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6506	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6509	NCBA1AK-333W	C CAPACITOR	0.033uF 10V K	
C6510	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C6511	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6512	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6701	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C6702	NCB41CK-106X	C CAPACITOR	10uF 16V K	
C6704	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C6705	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6706	NCBA1HK-221W	C CAPACITOR	220pF 50V K	
C6707	NCBA1HK-821W	C CAPACITOR	820pF 50V K	
C6802	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C6803	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C6804	NCBA1HK-392W	C CAPACITOR	3900pF 50V K	
C7701	NCB11CK-225X-A	C CAPACITOR	2.2uF 16V K	
C7702	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7703	NCB31AK-105X	C CAPACITOR	1uF 10V K	
C7801	NCB31AK-105X	C CAPACITOR	1uF 10V K	
C7802	NCB21AK-225X	C CAPACITOR	2.2uF 10V K	
C7803	NCB21AK-225X	C CAPACITOR	2.2uF 10V K	
C7804	NCB21AK-225X	C CAPACITOR	2.2uF 10V K	
C7806	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7807	NCB31AK-105X	C CAPACITOR	1uF 10V K	
C7809	NCB11CK-475X	C CAPACITOR	4.7uF 16V K	
C7811	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C8001	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8002	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8003	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8004	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8005	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8006	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8007	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8008	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8009	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8010	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8011	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8012	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8013	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8018	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8021	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8022	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8023	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8024	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8025	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8026	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8027	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8030	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8032	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C8034	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C8801	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C8802	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8803	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8804	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8805	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C8806	NDCA1EJ-221W	C CAPACITOR	220pF 25V J	
C8807	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8808	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8809	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8810	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8811	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
R1001	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R1002	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R1003	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1006	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1007	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1008	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1009	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J	
R1010	NRSA6AJ-623W	MG RESISTOR	62kΩ 1/16W J	
R1011	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1012	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1013	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1014	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R1015	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1016	NRSA6AJ-753W	MG RESISTOR	75kΩ 1/16W J	
R1017	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
R1018	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1019	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1020	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1021	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1022	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1023	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1024	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1026	NRSA6AJ-273W	MG RESISTOR	27kΩ 1/16W J	
R1027	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1028	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1029	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1030	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1031	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1032	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1033	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1034	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1036	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R1038	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1040	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1041	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J	
R1042	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1043	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1044	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1045	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R1046	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1047	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R1048	NRSA6AJ-272W	MG RESISTOR	2.7kΩ 1/16W J	
R1049	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	
R1050	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1051	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R1052	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R1053	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1054	NRSA6AJ-393W	MG RESISTOR	39kΩ 1/16W J	
R1055	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1056	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1057	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1058	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1059	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1060	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1061	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1062	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1063	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1064	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1065	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1066	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1067	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1068	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R1069	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1070	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1071	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1074	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1075	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1076	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1077	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1078	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1079	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1080	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1081	NRSA6AJ-330W	MG RESISTOR	33Ω 1/16W J	
R1082	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1083	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1084	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1085	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1086	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1087	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1088	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1091	NRSA6AJ-182W	MG RESISTOR	1.8kΩ 1/16W J	
R1092	NRSA6AJ-391W	MG RESISTOR	390Ω 1/16W J	
R1093	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J	
R1094	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
R1095	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1601	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	
R1602	NRSA6AJ-124W	MG RESISTOR	120kΩ 1/16W J	
R1603	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R1604	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1610	NRSA6AJ-271W	MG RESISTOR	270Ω 1/16W J	
R1611	NRSA6AJ-271W	MG RESISTOR	270Ω 1/16W J	
R1612	NRSA6AJ-683W	MG RESISTOR	68kΩ 1/16W J	
R1613	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1614	NRZ0072-R330X	MG RESISTOR	0.33Ω 1/4W F	
R1616	NRVA6AD-392W	CMF RESISTOR	3.9kΩ 1/16W D	
R1617	NRZ0072-R330X	MG RESISTOR	0.33Ω 1/4W F	
R1620	NRSA6AJ-683W	MG RESISTOR	68kΩ 1/16W J	
R1621	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1622	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1624	NRVA6AD-183W	CMF RESISTOR	18kΩ 1/16W D	
R1625	NRVA6AD-681W	CMF RESISTOR	680Ω 1/16W D	
R1629	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R1635	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1636	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R1637	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R1701	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J	
R1702	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1703	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1704	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1705	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1706	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J	
R1707	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1708	NRSA6AJ-124W	MG RESISTOR	120kΩ 1/16W J	
R1709	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1710	NRSA6AJ-124W	MG RESISTOR	120kΩ 1/16W J	
R1711	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1712	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R2202	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R2203	NRSA6AJ-393W	MG RESISTOR	39kΩ 1/16W J	
R2204	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R2206	NRSA6AJ-563W	MG RESISTOR	56kΩ 1/16W J	
R2207	NRSA6AJ-563W	MG RESISTOR	56kΩ 1/16W J	
R2208	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R2209	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R2210	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J	
R2211	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J	
R2212	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω 1/16W J	
R2213	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω 1/16W J	
R2217	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R2402	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R2403	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	
R2407	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R2601	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R2602	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R2607	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R2608	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R2609	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R2610	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R3005	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R3006	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R3007	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R3008	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3009	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R3011	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R3012	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3014	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J	
R3016	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R3017	NRSA6AJ-121W	MG RESISTOR	120Ω 1/16W J	
R3018	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R3022	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3028	NRSA6AJ-331W	MG RESISTOR	330Ω 1/16W J	
R3029	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R3031	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3041	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3043	NRSA6AJ-331W	MG RESISTOR	330Ω 1/16W J	
R3044	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R3060	NRSA6AD-911W	MG RESISTOR	910Ω 1/16W D	
R3061	NRSA6AD-911W	MG RESISTOR	910Ω 1/16W D	
R3062	NRSA6AD-911W	MG RESISTOR	910Ω 1/16W D	
R3063	NRSA6AD-822W	MG RESISTOR	8.2kΩ 1/16W D	
R3064	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D	
R3065	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D	
R3066	NRSA6AD-911W	MG RESISTOR	910Ω 1/16W D	
R3067	NRSA6AD-822W	MG RESISTOR	8.2kΩ 1/16W D	
R3068	NRSA6AD-911W	MG RESISTOR	910Ω 1/16W D	
R3069	NRSA6AD-911W	MG RESISTOR	910Ω 1/16W D	
R3071	NRSA6AD-681W	MG RESISTOR	680Ω 1/16W D	
R3072	NRSA6AD-822W	MG RESISTOR	8.2kΩ 1/16W D	

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R3073	NRSA6AD-681W	MG RESISTOR	680Ω 1/16W D	
R3081	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3083	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3089	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R3115	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3121	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3126	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3128	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R3156	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3157	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3158	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3159	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3160	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3161	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3162	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3163	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3164	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3165	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3166	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3167	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3168	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	
R3169	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	
R3172	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3501	NRSA6AJ-471W	MG RESISTOR	470Ω 1/16W J	
R3502	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R3503	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3504	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3505	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3506	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3507	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3508	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R3516	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3705	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R3706	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R3707	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R3709	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R3710	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R3711	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J	
R3712	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3713	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R3730	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3731	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3732	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3733	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R3734	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R3735	NRSA6AJ-182W	MG RESISTOR	1.8kΩ 1/16W J	
R3736	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	
R3737	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	
R3741	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3744	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R3745	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J	
R3750	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R3751	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R3752	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R3753	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3754	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R3755	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R3756	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3757	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3759	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R3760	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3761	NRSA6AJ-393W	MG RESISTOR	39kΩ 1/16W J	
R3763	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4201	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R4202	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4901	NRSA6AJ-392W	MG RESISTOR	3.9kΩ 1/16W J	
R4903	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R4904	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4905	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R4906	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R4907	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R4908	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R4909	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R4910	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4911	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4916	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4917	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R4919	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4920	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4923	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R4924	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R4925	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R4926	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R4927	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R4929	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4931	NRSA6AJ-271W	MG RESISTOR	270Ω 1/16W J	
R4932	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4934	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	
R4935	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R4944	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4951	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R5501	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5502	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5503	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5504	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5505	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5506	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5507	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5508	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5509	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R5510	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5511	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5512	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5513	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R5514	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R5515	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R6001	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R6005	NRVA6AD-303W	CMF RESISTOR	30kΩ 1/16W D	
R6008	NRVA6AD-823W	CMF RESISTOR	82kΩ 1/16W D	
R6009	NRVA6AD-333W	CMF RESISTOR	33kΩ 1/16W D	
⚠ R6010	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R6103	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R6104	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R6105	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R6106	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R6107	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D	
R6108	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R6110	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R6201	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D	
R6202	NRSA6AD-753W	MG RESISTOR	75kΩ 1/16W D	
R6203	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R6204	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R6303	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R6304	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R6305	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R6403	NRSA6AJ-273W	MG RESISTOR	27kΩ 1/16W J	
R6404	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R6512	NRSA6AJ-392W	MG RESISTOR	3.9kΩ 1/16W J	
R6513	NRSA6AJ-272W	MG RESISTOR	2.7kΩ 1/16W J	
R6514	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J	
R6515	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R6702	NRV142F-R20X	CMF RESISTOR	0.2Ω 1/4W F	
R6704	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R6705	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R6708	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R6709	NRSA6AJ-114W	MG RESISTOR	110kΩ 1/16W J	
R6710	NRSA6AJ-124W	MG RESISTOR	120kΩ 1/16W J	
R6712	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R6713	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R6714	NRSA6AJ-471W	MG RESISTOR	470Ω 1/16W J	
R6715	NRSA6AD-472W	MG RESISTOR	4.7kΩ 1/16W D	
R6716	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R6717	NRSA6AD-183W	MG RESISTOR	18kΩ 1/16W D	
R6721	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R6802	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R6803	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R7701	NRSA6AD-393W	MG RESISTOR	39kΩ 1/16W D	
R7702	NRSA6AD-682W	MG RESISTOR	6.8kΩ 1/16W D	
R7703	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R7704	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R7705	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R7706	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D	
R7707	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D	
R7708	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D	
R7712	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J	
R7713	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J	

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R7714	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J	
R7721	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7801	NRSA6AD-393W	MG RESISTOR	39kΩ 1/16W D	
R7802	NRSA6AD-682W	MG RESISTOR	6.8kΩ 1/16W D	
R7803	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R7804	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R7805	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R7806	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D	
R7807	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D	
R7808	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D	
R7809	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J	
R7810	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J	
R7811	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J	
R7812	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D	
R7813	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D	
R7814	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D	
R7815	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D	
R7816	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D	
R7817	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D	
R7824	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D	
R7825	NRSA6AD-332W	MG RESISTOR	3.3kΩ 1/16W D	
R7826	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D	
R7827	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D	
R7828	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D	
R7831	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R7832	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R8002	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8008	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R8009	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R8015	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J	
R8016	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8017	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8019	NRSA6AJ-221W	MG RESISTOR	220Ω 1/16W J	
R8021	NRSA6AJ-221W	MG RESISTOR	220Ω 1/16W J	
R8022	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R8023	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R8025	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R8031	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R8032	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R8041	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8042	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8046	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R8050	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R8051	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R8056	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J	
R8058	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R8059	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R8060	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R8061	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R8062	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R8801	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R8802	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8803	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8804	NRSA6AJ-394W	MG RESISTOR	390kΩ 1/16W J	
R8805	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R8806	NRSA6AD-560W	MG RESISTOR	56Ω 1/16W D	
R8807	NRSA6AD-560W	MG RESISTOR	56Ω 1/16W D	
R8808	NRSA6AD-560W	MG RESISTOR	56Ω 1/16W D	
R8809	NRSA6AD-560W	MG RESISTOR	56Ω 1/16W D	
R8810	NRSA6AD-512W	MG RESISTOR	5.1kΩ 1/16W D	
R8811	NRSA6AD-751W	MG RESISTOR	750Ω 1/16W D	
R8812	NRSA6AD-562W	MG RESISTOR	5.6kΩ 1/16W D	
R8821	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
RA1001	NRZ0034-473W	NET RESISTOR	47kΩ 1/32W J x4	
RA1002	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J x4	
RA1003	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J x4	
RA1004	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J x4	
RA1005	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J x4	
RA1006	NRZ0034-102W	NET RESISTOR	1kΩ 1/32W J x4	
RA1007	NRZ0034-102W	NET RESISTOR	1kΩ 1/32W J x4	
RA3001	NRZ0034-221W	NET RESISTOR	220Ω 1/32W J x4	
RA3002	NRZ0034-221W	NET RESISTOR	220Ω 1/32W J x4	
RA3003	NRZ0034-221W	NET RESISTOR	220Ω 1/32W J x4	
RA3004	NRZ0034-221W	NET RESISTOR	220Ω 1/32W J x4	
RA3005	NRZ0034-470W	NET RESISTOR	47Ω 1/32W J x4	
RA3006	NRZ0034-470W	NET RESISTOR	47Ω 1/32W J x4	
RA8001	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J x4	
RA8002	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J x4	
RA8003	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J x4	
RA8004	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J x4	
RA8005	NRZ0034-103W	NET RESISTOR	10kΩ 1/32W J x4	
L1001	NQLC32M-100X	COIL	10uH M	
L1002	NQLC32M-100X	COIL	10uH M	
L1601	NQLC32M-100X	COIL	10uH M	
L1602	NQLC32M-100X	COIL	10uH M	
L2401	NQLC32M-100X	COIL	10uH M	
L2402	NQLC32M-100X	COIL	10uH M	
L2403	NQLC32M-100X	COIL	10uH M	
L2601	NQR0602-001X	FERRITE BEADS		
L2602	NQR0602-001X	FERRITE BEADS		
L2603	NQR0602-001X	FERRITE BEADS		
L3001	NQLC32M-100X	COIL	10uH M	
L3002	NQLC32M-100X	COIL	10uH M	
L3004	NQLC32M-100X	COIL	10uH M	
L3005	NQLC32M-100X	COIL	10uH M	
L3007	NQLC32M-100X	COIL	10uH M	
L3009	NQLC32M-100X	COIL	10uH M	
L3011	NQR0602-001X	FERRITE BEADS		
L3014	NQLD8DJ-2R2X	COIL	2.2uH J	
L3015	NQLD8DJ-120X	COIL	12uH J	
L3501	NQR0602-001X	FERRITE BEADS		
L3502	NQLC32M-100X	COIL	10uH M	
L3503	NQR0602-001X	FERRITE BEADS		
L3701	NQLC32M-100X	COIL	10uH M	
L3731	NQLD8DJ-6R8X	COIL	6.8uH J	
L3732	NQLD8DJ-6R8X	COIL	6.8uH J	
L4201	NQLC32M-100X	COIL	10uH M	
L4202	NQLC32M-100X	COIL	10uH M	
L4203	NQR0129-002X	FERRITE BEADS		
L4901	NQR0129-002X	FERRITE BEADS		
L4902	NQLC32M-100X	COIL	10uH M	
L4903	NQL38DK-100X	P COIL	10uH K	
L4904	NQLC32M-100X	COIL	10uH M	
L5501	NQR0129-002X	FERRITE BEADS		
L5502	NQLC32M-100X	COIL	10uH M	
L5503	NQR0129-002X	FERRITE BEADS		
L5504	NQLC32M-100X	COIL	10uH M	
L5505	NQR0129-001X	FERRITE BEADS		
L5506	NQLC32M-100X	COIL	10uH M	
L5507	NQR0129-001X	FERRITE BEADS		
L6101	NQL87EN-390X	COIL	39uH N	
L6201	NQL87EN-390X	COIL	39uH N	
L6301	NQL62EM-470X	COIL	47uH M	
L6401	NQL62EM-470X	COIL	47uH M	
⚠ L6501	NQL52EM-221X	COIL	220uH M	
L6502	NQLC32M-100X	COIL	10uH M	
L6701	NQL52EM-390X	COIL	39uH M	
L6801	NQL365K-470X	COIL	47uH K	
L7701	NQLC32M-100X	COIL	10uH M	
L7802	NQR0602-001X	FERRITE BEADS		
L8001	NQR0602-001X	FERRITE BEADS		
L8002	NQR0602-001X	FERRITE BEADS		
L8003	NQR0602-001X	FERRITE BEADS		
L8005	NQR0602-001X	FERRITE BEADS		
L8006	NQR0602-001X	FERRITE BEADS		
L8008	NQLC32M-100X	COIL	10uH M	
L8010	NQR0506-002X	EMI FILTER		
L8801	NQR0602-001X	FERRITE BEADS		
L8802	NQR0602-001X	FERRITE BEADS		
CN101	QGF0508F3-40X	CONNECTOR	REAR FFC/FPC (1-40)	
CN102	QGB0519J1-20X	CONNECTOR	JIG CN B-B (1-20)	
CN103	QGF0549C2-30W	CONNECTOR	OPE FFC/FPC (1-30)	
CN1601	QGF0543F3-08X	CONNECTOR	LM/ENC FFC/FPC (1-8)	
CN1602	QGF0543F3-11X	CONNECTOR	DRUM FFC/FPC (1-11)	
CN1603	QGF0543F3-18X	CONNECTOR	CAPSTAN FFC/FPC (1-18)	
CN1604	QGF0543F3-16X	CONNECTOR	SENSOR FFC/FPC (1-16)	
CN2601	QGA1001F1-04X	CONNECTOR	MIC W-B (1-4)	
CN3501	QGF0543F3-08X	CONNECTOR	HEAD FFC/FPC (1-8)	
CN4201	QGF0549C2-20W	CONNECTOR	CCD FFC/FPC (1-20)	
CN4901	QGF0549C2-22W	CONNECTOR	OP FFC/FPC (1-22)	
CN7801	QGF0549C2-24W	CONNECTOR	VF FFC/FPC (1-24)	
⚠ F1601	NMFZ007-R20X-K	FUSE	1608 UNREG 0.2A 50V	
⚠ F1602	NMFZ007-R50X-K	FUSE	1608 REG3V 0.5A 50V	
⚠ F6001	NMFZ007-2R5X-K	FUSE	2.5A 24V	

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
J101	QNA0040-001	DC JACK	DCJACK	
J102	QNZ0822-001	D CONNECTOR	DVJACK	
J103	QNZ0617-001	USB CONNECTOR	USB	
TL102	NNZ0084-002X	EARTH TERMINAL		
X1001	NAX0645-001X	CRYSTAL	20.000MHz	
X1002	NAX0564-001X	CRYSTAL	32.768kHz	
X5501	NAX0674-001X	CXO	72M CXO 72.000MHZ	
HD1	LY35153-002A	HOLDER (LED)	LED HOLDER	A
HD1	LY35153-002A-ML	HOLDER (LED)		B,C,D,E
OT1	LY30035-013A	SPACER(A)	FOR LED	

CCD BOARD ASSEMBLY <02>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20031-01A	CCD BOARD ASSY		
Q5201	2SC4083/NP/-X	TRANSISTOR		
Q5202	2SC4081/RS/-X	TRANSISTOR		
Q5203	2SC4083/NP/-X	TRANSISTOR		
C5201	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5202	NBZ0018-106X	TA E CAPACITOR	10uF 20V M	
C5203	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5204	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C5205	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5206	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5207	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
R5201	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R5202	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R5203	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R5204	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R5205	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
L5201	NQL38DK-100X	P COIL	10uH K	
L5202	NQL38DK-100X	P COIL	10uH K	

REAR BOARD ASSEMBLY <03>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20024-06C	REAR BOARD ASSY		
D501	EMZ6.8N-X	Z DIODE	EMZ6.8N-X	
D504	EMZ6.8N-X	Z DIODE	EMZ6.8N-X	
C503	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C504	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C505	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C506	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C508	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C510	NDC21HG-151X	C CAPACITOR	150pF 50V G	
C513	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R501	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R502	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R503	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R504	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R505	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R506	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R507	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R508	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R509	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R510	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R511	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R512	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R513	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R514	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L501	NQR0251-004X	FERRITE BEADS		
L502	NQR0251-004X	FERRITE BEADS		
L503	NQR0006-001X	FERRITE BEADS		
L504	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L505	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L506	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
⚠ BT501	QAB0025-001	LITHIUM BATTERY	CR2032/1F4 3V 220mAh	
BT502	LY35060-001B	BATT.TERM.UNIT		
CN501	QGF0508F3-40X	CONNECTOR	TO MAIN(S5) FFC/FPC (1-40)	
CN502	QGF0534F3-07X	CONNECTOR	TO POWER FFC/FPC (1-7)	
CN503	NNZ0151-001X	SD CARD CONNE	NNZ151(SD)	
J501	QNS0264-001	3.5 JACK	AVJACK	
J502	QND0068-001	S JACK	S JACK	
S501	NSW0162-001X	DETECT SWITCH	EJECT	
OT1	LY30034-038A	SPACER(A)	SD CN	
WR1	QUQK05-40X4BA-E	FFC WIRE	REAR FFC 40pin 4.5cm	

OPE BOARD ASSEMBLY <04>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20026-02C	OPE BOARD ASSY		
R401	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R402	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R403	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R404	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R405	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R406	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
CN401	QGF0543F3-30X	CONNECTOR	TO MAIN FFC/FPC (1-30)	
CN402	QGF0528F4-18X	CONNECTOR	TO MONITOR FFC/FPC (1-18)	
CN403	QGF0534F3-08X	CONNECTOR	TO ZOOM FFC/FPC (1-8)	
CN404	QGA1001F1-02X	CONNECTOR	TO SPK W-B (1-2)	
S401	NSW0225-001X	DETECT SWITCH	MONI SW	
S402	NSW0198-001X	TACT SWITCH	SET_SW	
S403	NSW0099-001X	SLIDE SWITCH	NSW99X(SD)	
S404	NSW0198-001X	TACT SWITCH	MENU	
S405	NSW0198-001X	TACT SWITCH	WIDE	
S406	NSW0198-001X	TACT SWITCH	LED LIGHT	
S407	NSW0198-001X	TACT SWITCH	STOP	
S408	NSW0198-001X	TACT SWITCH	REW	
S409	NSW0198-001X	TACT SWITCH	FF	
S410	NSW0198-001X	TACT SWITCH	PLAY	
OT1	LY30035-008A	SPACER(A)		
OT2	LY41818-001A	SPACER	(x2)	
WR1	QUQK05-3005AA-E	FFC WIRE	OPE FFC 30pin 5cm	

MONITOR BOARD ASSEMBLY <05>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20023-02A	MONITOR BOARD ASSY		
IC7601	DN8797MS-X	IC		
Q7601	PUMX1-W	PAIR TRANSISTOR		
Q7601 or	BC847S-X	PAIR TRANSISTOR		
Q7601 or	KTC801U/G/-X	PAIR TRANSISTOR		
Q7601 or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7601 or	UMX1N-W	PAIR TRANSISTOR		
Q7602	PUMX1-W	PAIR TRANSISTOR		
Q7602 or	BC847S-X	PAIR TRANSISTOR		
Q7602 or	KTC801U/G/-X	PAIR TRANSISTOR		
Q7602 or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7602 or	UMX1N-W	PAIR TRANSISTOR		
D7601	RB521S-30-X	SB DIODE		
D7601 or	KDR720E-X	SB DIODE		
D7602	RB521S-30-X	SB DIODE		
D7602 or	KDR720E-X	SB DIODE		
D7603	RB521S-30-X	SB DIODE		
D7603 or	KDR720E-X	SB DIODE		
D7604	RB521S-30-X	SB DIODE		
D7604 or	KDR720E-X	SB DIODE		
D7605	NSSW008C/T052-X	LED	LED	

MODEL	MARK	MODEL	MARK
GR-D650AA	A	GR-D650AH	D
GR-D650AC	B	GR-D650AS	E
GR-D650AG	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
D7605 or	HEW1142LS/93/-X	LED	LED	
D7606	NSSW008C/T052-X	LED	LED	
D7606 or	HEW1142LS/93/-X	LED	LED	
D7607	NSSW008C/T052-X	LED	LED	
D7607 or	HEW1142LS/93/-X	LED	LED	
C7601	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7602	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C7603	NCB31EK-153X	C CAPACITOR	0.015uF 25V K	
C7606	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7607	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C7608	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C7609	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7610	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C7611	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7612	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7613	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7614	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7615	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7622	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7623	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7624	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7625	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R7601	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R7602	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7604	NRSA63D-223X	MG RESISTOR	22kΩ 1/16W D	
R7605	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7606	NRSA63J-106X	MG RESISTOR	10MΩ 1/16W J	
R7609	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7610	NRSA63D-912X	MG RESISTOR	9.1kΩ 1/16W D	
R7611	NRSA63D-912X	MG RESISTOR	9.1kΩ 1/16W D	
R7612	NRSA63D-912X	MG RESISTOR	9.1kΩ 1/16W D	
R7613	NRSA63D-103X	MG RESISTOR	10kΩ 1/16W D	
R7614	NRSA63D-103X	MG RESISTOR	10kΩ 1/16W D	
R7615	NRSA63D-103X	MG RESISTOR	10kΩ 1/16W D	
R7616	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R7617	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R7618	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R7619	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R7620	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
L7602	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
L7603	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
L7604	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
CN7601	QGF0312F1-21W	CONNECTOR	TO OPE FFC/FPC (1-21)	
CN7602	QGF0528F4-40X	CONNECTOR	FFC/FPC (1-40)	
OT1	QAL0785-001	FPC		

VF BOARD ASSEMBLY <06>

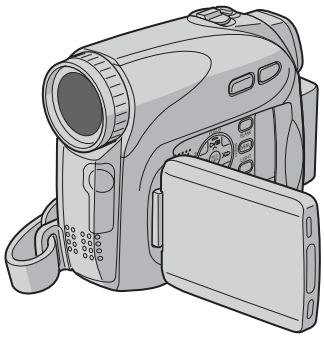
⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20027-01B	VF BOARD ASSY		
Q7001	PUMX1-W	PAIR TRANSISTOR		
Q7001 or	BC847S-X	PAIR TRANSISTOR		
Q7001 or	KTC801U/G/-X	PAIR TRANSISTOR		
Q7001 or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7001 or	UMX1N-W	PAIR TRANSISTOR		
D7001	E1S35AW0C501-X	LED		
D7002	UDZS5.1B-X	Z DIODE		
C7001	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7002	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	
R7001	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R7002	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R7003	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
CN7001	QGF0543F3-23X	CONNECTOR	TO MAIN FFC/FPC (1-23)	
CN7002	QGF0543F3-22X	CONNECTOR	TO VF LCD FFC/FPC (1-22)	
S7001	NSW0271-001X	DETECT SWITCH	VF SW	

JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

GR-D640EX, GR-D640EY, GR-D640EZ, GR-D645EG, GR-D650EX, GR-D650EY, GR-D650EZ



Mini DV PAL

SD

MultiMediaCard

GR-D640EXM, GR-D640EYM, GR-D640EZM, GR-D645EGM [M6D2S6],
GR-D650EXM, GR-D650EYM, GR-D650EZM [M6D2S7]

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.YF081(MECHANISM ASSEMBLY).
Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

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No.YF142
2006/5

SPECIFICATION

■Camcorder

For General	Power supply		DC 11 V (Using AC Adapter) DC 7.2 V (Using battery pack)
	Power consumption		Approx. 2.8 W (3.0 W*) (LCD monitor off, viewfinder on) Approx. 3.1 W (3.3 W*) (LCD monitor on, viewfinder off) * Using LED Light
	Dimensions (W × H × D)		59 mm × 97 mm × 112 mm (with the LCD monitor closed and the viewfinder pushed back in)
	Weight		Approx. 420 g (without battery, cassette and lens cap) Approx. 500 g (incl. battery, cassette and lens cap)
	Operating temperature		0°C to 40°C
	Operating humidity		35% to 80%
	Storage temperature		-20°C to 50°C
	Pickup		1/5" CCD
	Lens		F 1.2, f = 3.0 mm to 45 mm, 15:1 power zoom lens
	Filter diameter		Ø30.5 mm
	LCD monitor		2.5" diagonally measured, LCD panel/TFT active matrix system
	Viewfinder		Electronic viewfinder with 0.16" color LCD
	Speaker		Monaural
	LED Light		Effective distance: 1.5 m
For Digital Video Camera	Format		DV format (SD mode)
	Signal format		PAL standard
	Recording/Playback format	Video	Digital component recording
		Audio	PCM digital recording, 32 kHz 4-channel (12-BIT), 48 kHz 2-channel (16-BIT)
	Cassette		Mini DV cassette
	Tape speed		SP: 18.8 mm/s, LP: 12.5 mm/s
	Maximum recording time (using 80 min. cassette)		SP: 80 min., LP: 120 min.
For Digital Still Camera	Storage media		SD Memory Card/MultiMediaCard
	Compression system		JPEG (compatible)
	File size		Still image : 3 modes (1280 × 960 pixels/1024 × 768 pixels/640 × 480 pixels)
	Picture quality		2 modes (FINE/STANDARD)
	Approximate number of storable images		pg.27 (INST BOOK)
For Connectors	S	S-Video input	Y: 0.8 to 1.2 V (p-p), 75Ω, analoue C: 0.2 V to 0.4V (p-p), 75Ω, analogue
		S-Video output	Y: 1.0 V (p-p), 75Ω, analogue C: 0.3 V (p-p), 75Ω, analogue
	AV	Video input	0.8V to 1.2V (p-p), 75 kΩ, analogue
		Video output	1.0V (p-p), 75 kΩ, analogue
		Audio input	300 mV (rms), 50kΩ, anaiogue,stereo
		Audio output	300 mV (rms), 1kΩ, anaiogue,stereo

■AC Adapter

Power requirement	AC 110 V to 240 V, 50 Hz/60 Hz
Output	DC 11 V, 1 A

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

SECTION 1
PRECAUTIONS

1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold.However,in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

1.1.1 Precautions during Servicing

(1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product.When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

(2) Parts identified by the ⚠symbol and shaded ( ) parts are critical for safety.
Replace only with specified part numbers.

NOTE :

Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

(3) Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

(4) Use specified internal wiring. Note especially:
- Wires covered with PVC tubing
- Double insulated wires
- High voltage leads

(5) Use specified insulating materials for hazardous live parts. Note especially:
- Insulation Tape
- PVC tubing
- Spacers
- Insulation sheets for transistors
- Barrier

(6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

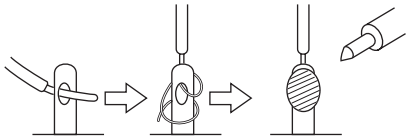


Fig.1-1-1

(7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

(8) Check that replaced wires do not contact sharp edged or pointed parts.

(9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

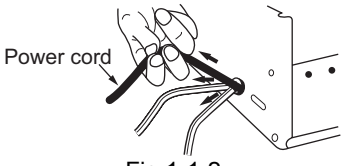


Fig.1-1-2

(10) Also check areas surrounding repaired locations.

(11) Products using cathode ray tubes (CRTs)In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

(12) Crimp type wire connectorIn such cases as when replacing the power transformer in sets where the connections between the power cord and power trans former primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

- **Connector part number** :E03830-001
- **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
- **Replacement procedure**

a) Remove the old connector by cutting the wires at a point close to the connector.Important : Do not reuse a connector (discard it).

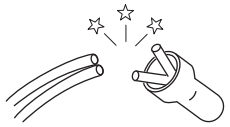


Fig.1-1-3

b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

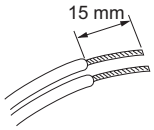


Fig.1-1-4

c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

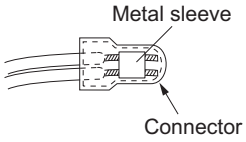


Fig.1-1-5

d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

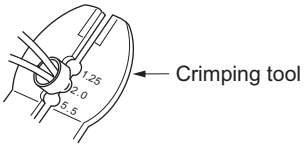


Fig.1-1-6

e) Check the four points noted in Fig.1-1-7.

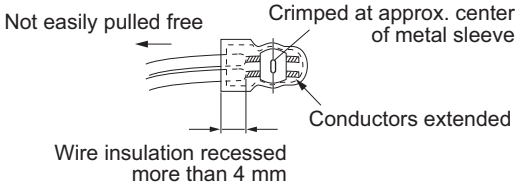

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.1-1-7

1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

(1) Insulation resistance test
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).See table 1 below.

(2) Dielectric strength test
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

(3) Clearance distance
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

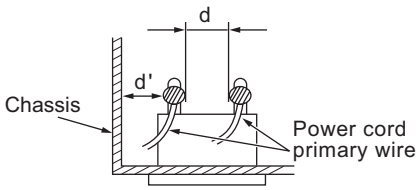


Fig.1-1-8

(4) Leakage current test
Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
Measuring Method : (Power ON)Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

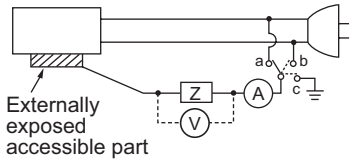
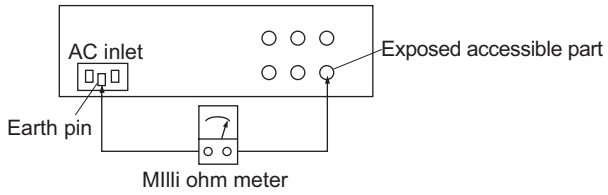


Fig.1-1-9

(5) Grounding (Class 1 model only)
Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).Measuring Method:
Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦R≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Fig.1-1-12

NOTE :
These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3
DISASSEMBLY

3.1 BEFORE ASSEMBLY AND DISASSEMBLY

3.1.1 Precautions

- Be sure to disconnect the power supply unit prior to mounting and soldering of parts.
- Prior to removing a component part that needs to disconnect its connector(s) and its screw(s), first disconnect the wire(s) from the connector(s), and then remove the screw(s).
- When connecting/disconnecting wires, pay enough attention not to damage the connectors.
- When inserting the flat wire to the connector, pay attention to the direction of the flat wire.
- Be careful in removing the parts to which some spacer or shield is attached for reinforcement or insulation.
- When replacing chip parts (especially IC parts), first remove the solder completely to prevent peeling of the pattern.
- Tighten screws properly during the procedures. Unless otherwise specified, tighten screws at a torque of 0.098N·m (1.0kgf·cm). However, as this is a required value at the time of production, use the value as a measuring stick when proceeding repair services. (See "SERVICE NOTE" as for tightening torque.)

3.1.2 Destination of connectors

Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.

⇔ : Flat wire ↔ : Wire ⬌ : Board to board (B-B)
: The connector of the side to remove

CONN. No.	CONNECTOR					PIN No.
CN2a	MAIN	CN101	⇔	MONI BW	CN761	40
CN2b	MAIN	CN103	↔	MINI BW	CN762	10

3.1.3 Disconnection of connectors (Wires)

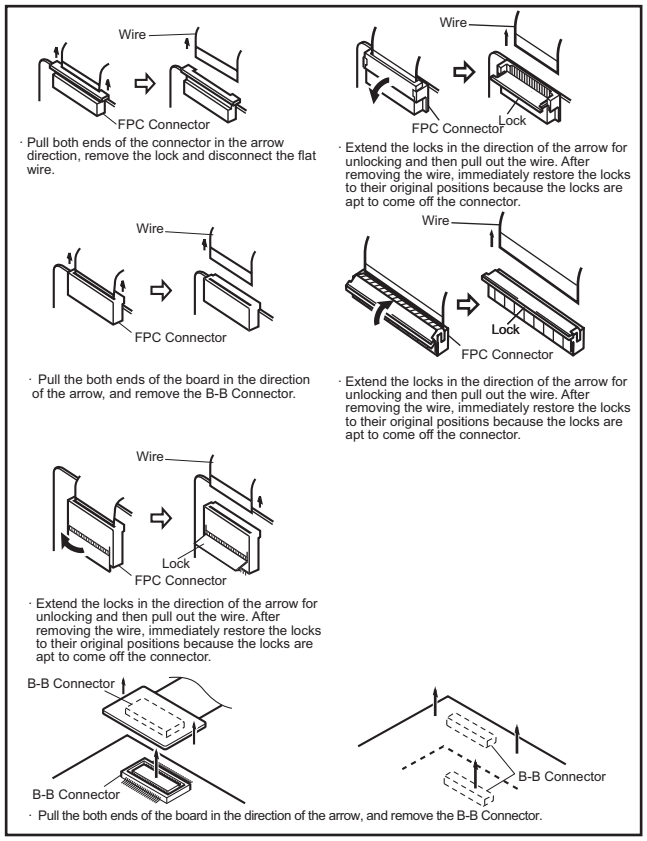

Wire
FPC Connector
· Pull both ends of the connector in the arrow direction, remove the lock and disconnect the flat wire.
Wire
FPC Connector
Lock
· Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.
Wire
FPC Connector
· Pull the both ends of the board in the direction of the arrow, and remove the B-B Connector.
Wire
Lock
FPC Connector
· Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.
Wire
Lock
FPC Connector
· Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.
B-B Connector
B-B Connector
B-B Connector
· Pull the both ends of the board in the direction of the arrow, and remove the B-B Connector.

Fig.3-1-1

3.1.4 Tools required for disassembly and assembly

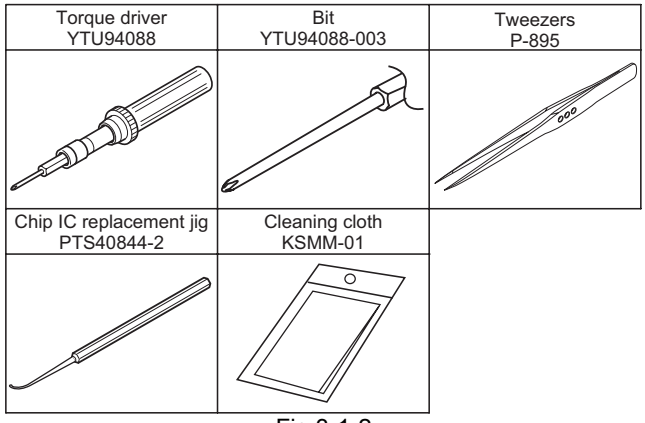


Fig.3-1-2

- **Torque driver**
  Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.
- **Bit**
  This bit is slightly longer than those set in conventional torque drivers.
- **Tweezers**
  To be used for removing and installing parts and wires.
- **Chip IC replacement jig**
  To be used for replacement of IC.
- **Cleaning cloth**
  Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

3.2 ASSEMBLY AND DISASSEMBLY OF MAIN PARTS

3.2.1 Assembly and disassembly

When reassembling, perform the step(s) in reverse order.

STEP No.	PART	Fig. No.	POINT	NOTE
[1]	TOP COVER ASSY	C1	4(S1a), 3(L1a),CN1a	-
[2]	UPPER ASSY (Inc. VF ASSY, SPEAKER/MONITOR)	C2-1	(S2a),2(S2b),3(S2c) 2(SD1a), L2,CN2a,b	-
[8]	E.VF UNIT(B/W)	C2-2	2(S8),L8,CN8a	NOTE 8
(∗1)	(∗2)	(∗3)	(∗4)	(∗5)

(∗1) Order of steps in Procedure
When reassembling, preform the step(s) in the reverseorder. These numbers are also used as the identification (location) No. of parts Figures.
(∗2) Part to be removed or installed.
(∗3) Fig. No. showing Procedure or Part Location.
(∗4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
S = Screw L = Lock, Release, Hook
SD = Solder CN = Connector

[Example]

- 4 (S1a) = Remove 4 S1a screws.
- 3 (L1a) = Disengage 3 L1a hooks.
- 2 (SD1a) = Unsolder 2 SD1a points.
- CN1a = Remove a CN1a connector.

(∗5) Adjustment information for installation.

3.2.2 ASSEMBLY/DISASSEMBLY OF CABINET PARTS AND ELECTRICAL PARTS

●Disassembly procedure

STEP No.	PART NAME	Fig. No.	POINT	NOTE
[1]	UPPER ASSY	FA1-1	S1a,2(S1b),3(S1c),S1d	NOTE1a
		FA1-2	L1a,b,c,2(L1d),CN1	NOTE1b
[2]	OPE PWB ASSY	UA1	CN2a,b,c,S2a,4(S2b),KNOB(SLIDE)	NOTE2a,b,c
[3]	COVER (HINGE)	UA2	2(S3)	-
[4]	MONITOR ASSY	UA3	2(S4),2(L4)	-
[5]	SPEAKER	UA4	S5,EARTH PLATE,S5,	NOTE5a,b
[6]	ZOOM UNIT		BKT.(HINGE),2(L5),3(S6),L6	-
[7]	FRONT ASSY	FA2	2(S7a),S7b,L7a,3(L7b),CN7	NOTE7
[8]	CASS.COVER	FA3	GRIP BELT,4(S8),2(L8)	NOTE8
[9]	VF ASSY	FA4	CN9a,S9a,b,c,CN9b	NOTE9a,b
[10]	REAR COVER ASSY	FA5	S10a,b,c,L10a,b	NOTE10
[11]	LOWER CASE ASSY	FA6	2(S11),CN11	NOTE11
[12]	REAR PWB ASSY	FA7	S12,L12,CN12	NOTE12
[13]	OP BLOCK ASSY		3(S13),CN13	-
[14]	MAIN BKT ASSY	FA8	3(S14),L14a,b	-
[15]	MAIN PWB ASSY	FA9	CN15a,b,c,d,e,S15,L15a,b	-
[16]	FRAME ASSY		4(S16)	-

NOTE1a:
Open the MONITOR ASSY, and then remove the screw (No.7) which is next to the DV terminal.

NOTE1b:
When removing the UPPER ASSY, be careful in handling the FPC.
Also, be careful in wiring the FPC when attaching the UPPER ASSY.

NOTE2a:
During the procedure, be careful in handling the SWITCH.
When attaching, leave the MONITOR ASSY open.

NOTE2b:
When attaching, be careful in wiring.

NOTE2c:
During the procedure, be careful not to lose KNOB(SLIDE).

NOTE5a:
Some models do not use EARTH PLATE.
When removing the SPEAKER, remove the EARTH PLATE; only when it is used, by removing the fixing screw (No. 17).

NOTE5b:
When attaching, be careful in wiring (SPEAKER).

NOTE7:
When attaching, be careful to avoid placing the WIRE (MIC) on the front side, and make sure to place the WIRE (MIC) on the connector.

NOTE8:
Pull out the GLIP BELT first.

NOET9a:
When removing the VF ASSY, pull out the FPC on the CCD BOARD ASSY from the MAIN BOARD ASSY first.

NOTE9b:
When removing, pull out the FPC by lifting up the VF ASSEMBLY.

NOTE10:
During the procedure, release the LOWER CASE ASSY in the direction of an arrow.

NOTE11:
During the procedure, be careful in handling the FPC.

NOTE12:
During the procedure, be careful not to damage the SWITCH.
During the procedure, leave the CASS. COVER closed.

●Destination of connectors

CN. No.	CONNECTOR					PIN No.
CN1	MAIN	CN103	⇔	OPE	CN401	30
CN2a	OPE	CN403	⇔	ZOOM UNIT	-	8
CN2b	OPE	CN404	↔	SPEAKER	-	2
CN2c	OPE	CN402	⇔	MONITOR	CN7601	18/21
CN7	MAIN	CN2601	↔	MIC	-	4
CN9a	MAIN	CN4201	⇔	CCD	CN5001	20
CN9b	MAIN	CN7801	⇔	VF	CN7001	24/23
CN11	REAR	CN502	⇔	POWER UNIT	-	7
CN12	MAIN	CN101	⇔	REAR	CN501	40
CN13	MAIN	CN4901	⇔	OP BLOCK	-	22
CN15a	MAIN	CN1604	⇔	SENSOR	-	16
CN15b	MAIN	CN1603	⇔	CAPSTAN MOTOR	-	18
CN15c	MAIN	CN1602	⇔	DRUM MOTOR	-	11
CN15d	MAIN	CN3501	⇔	HEAD	-	8
CN15e	MAIN	CN1601	⇔	LOADING MOTOR ROTARY ENCODER SW	-	8

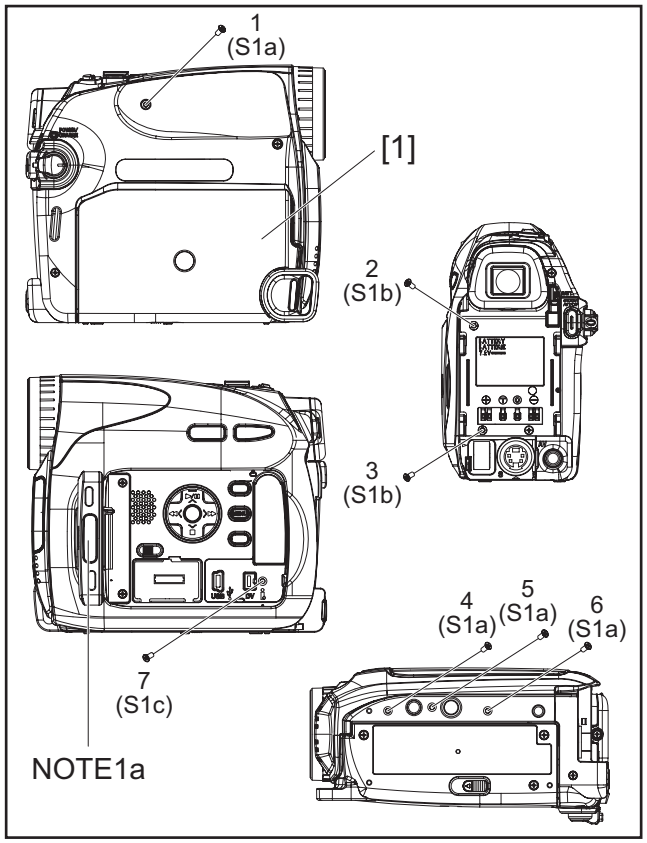


Fig.FA1-1

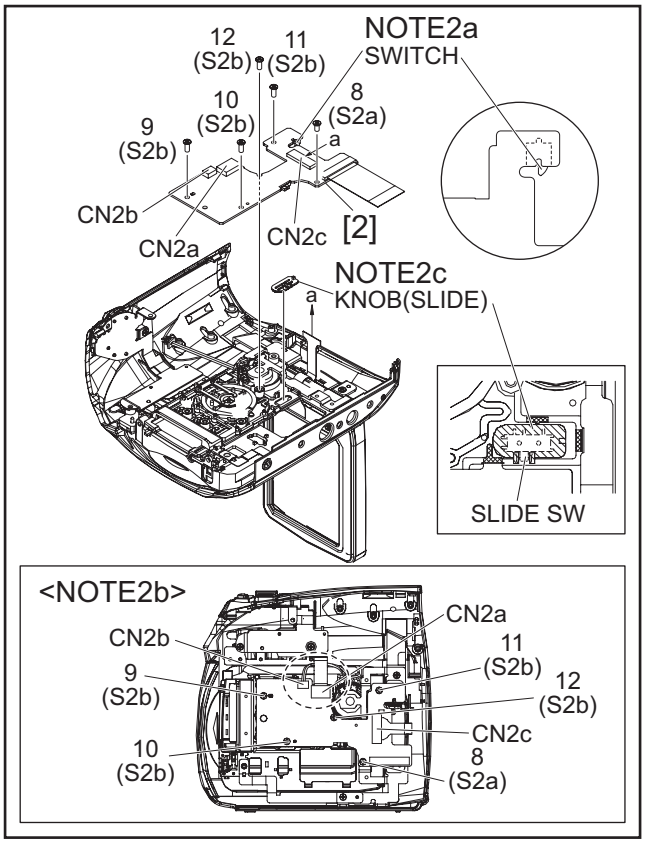


Fig.UA1

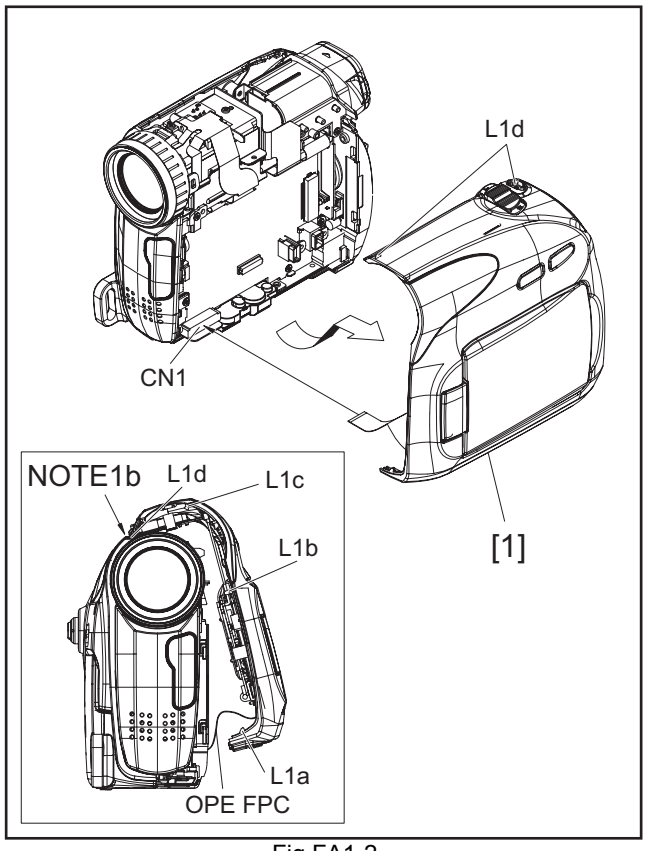


Fig.FA1-2

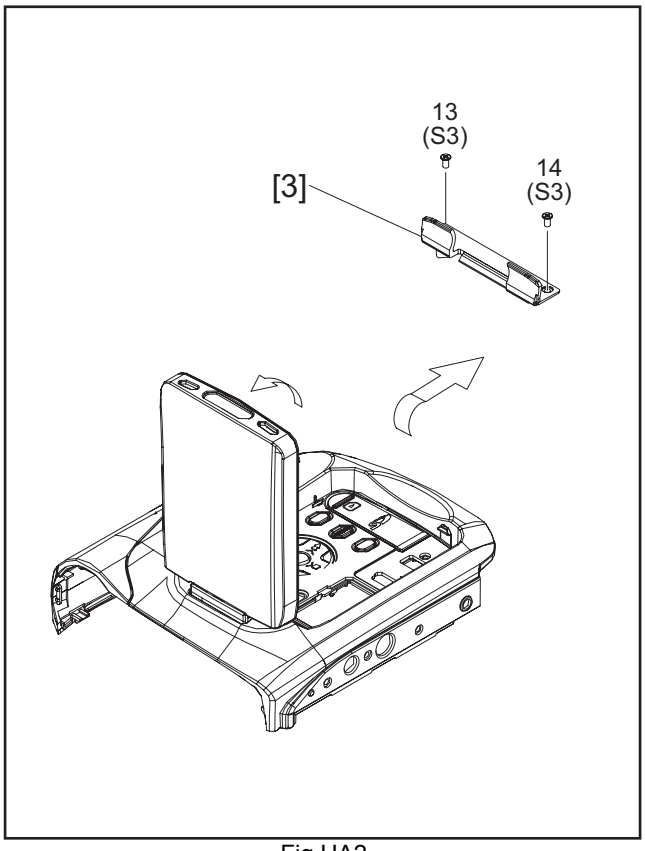


Fig.UA2

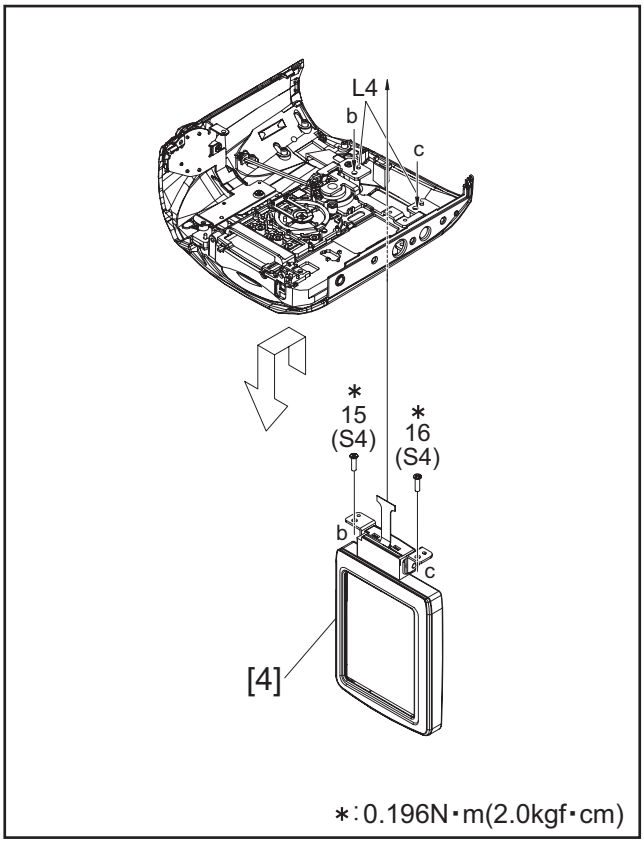


Fig.UA3

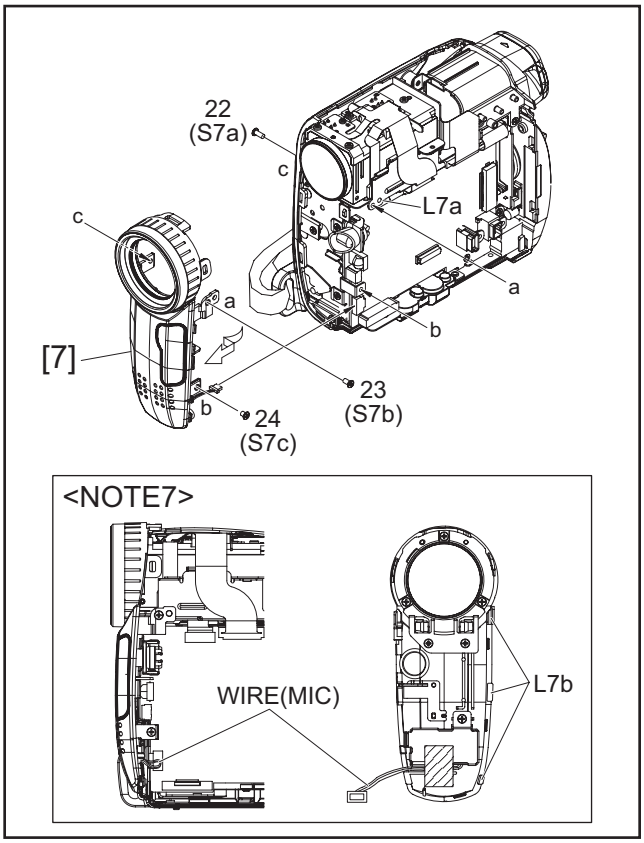


Fig.FA2

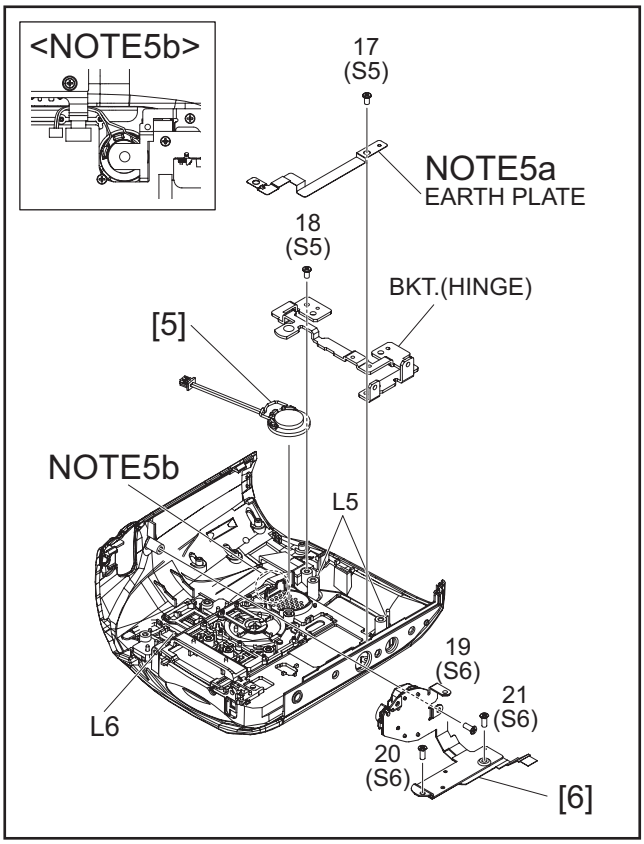


Fig.UA4

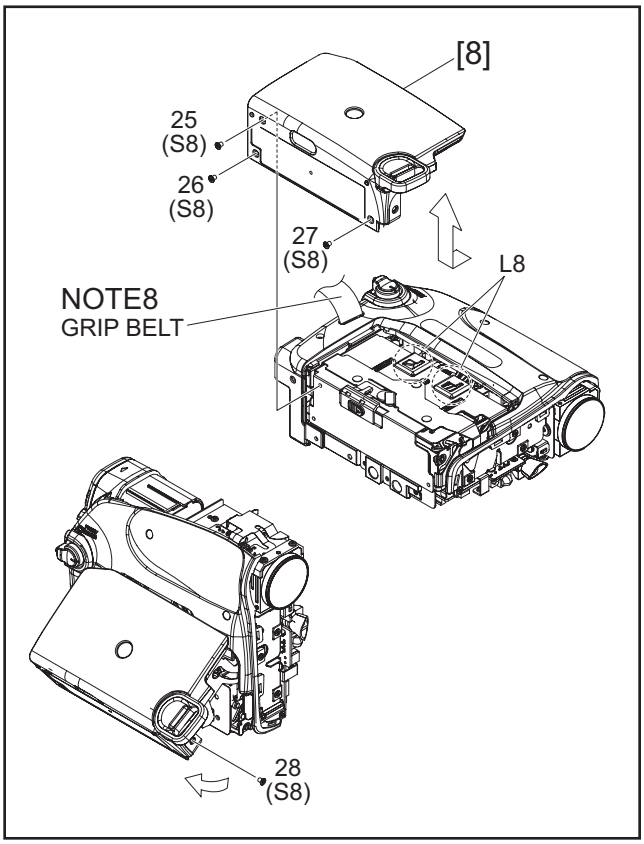


Fig.FA3

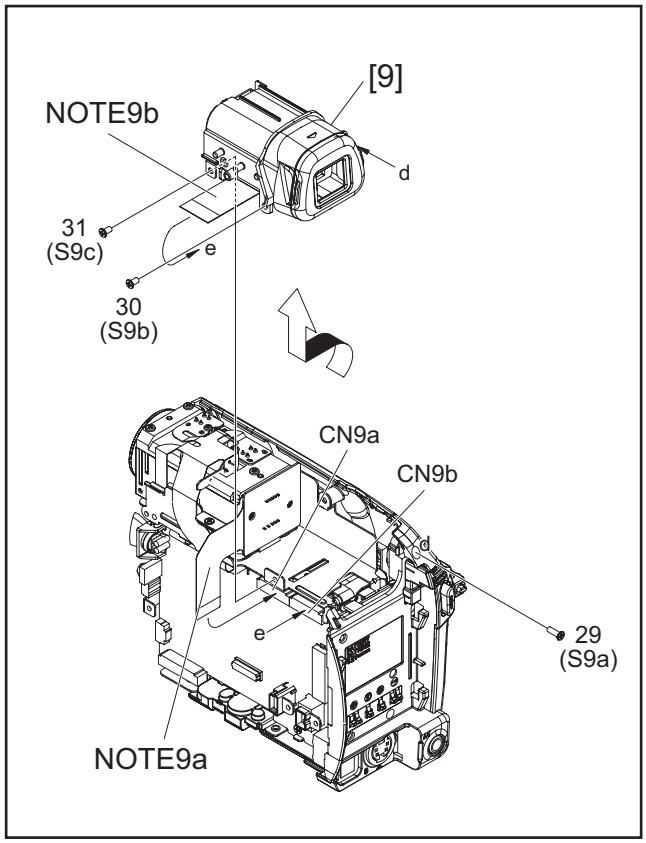


Fig.FA4

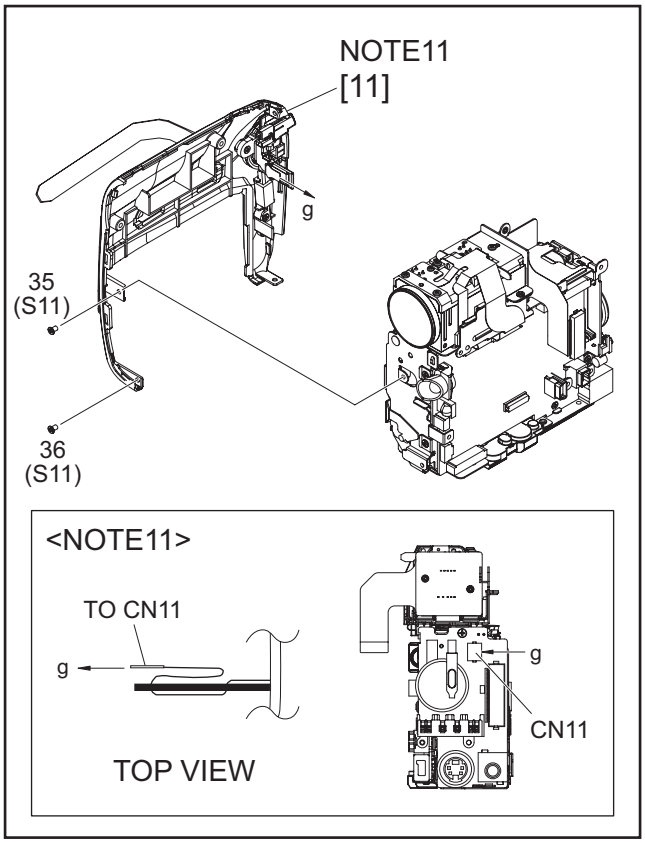


Fig.FA6

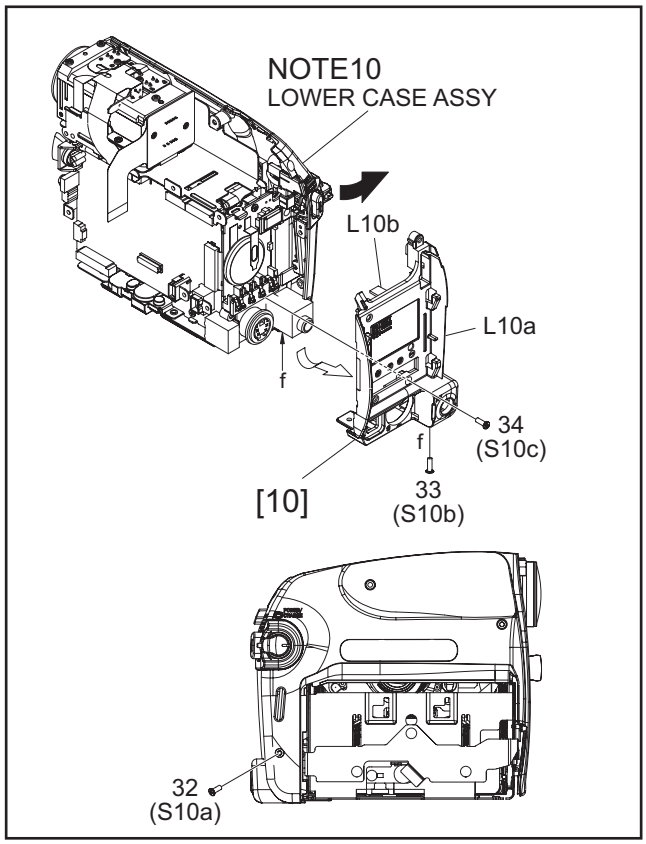


Fig.FA5

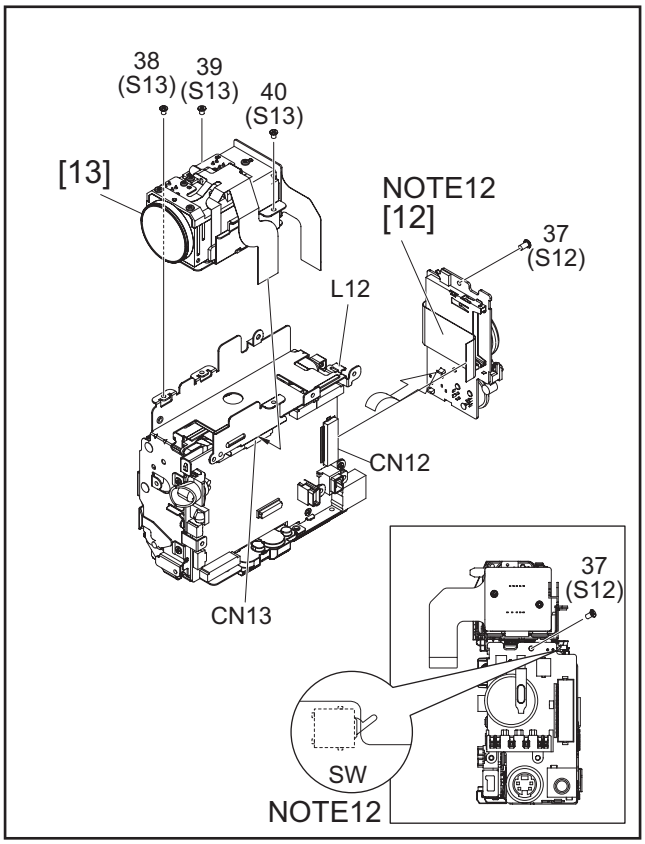


Fig.FA7

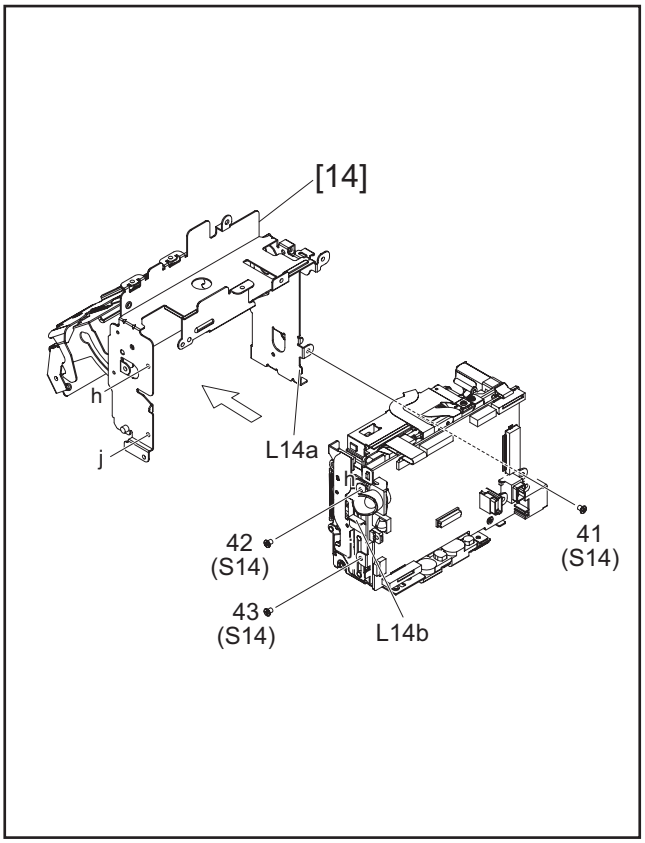


Fig.FA8

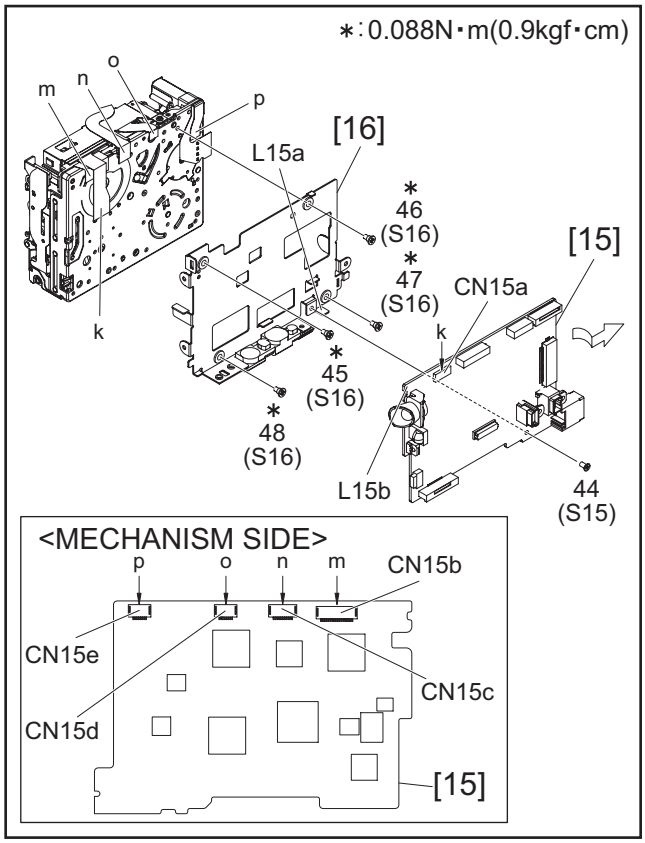


Fig.FA9

3.2.3 ASSEMBLY/DISASSEMBLY OF [4] MONITOR ASSEMBLY

●CAUTIONS

(1) During the procedure, be careful in handling the LCD MODULE and other parts. Pay special attention not to damage or soil the monitor screen.
If fingerprints are left on the screen, wipe them with clean chamois leather or a cleaning cloth.

●Removing MONITOR ASSEMBLY

(1) Turn the HINGE UNIT ASSEMBLY 90°, and remove the two screws (1 and 2). Remove the M.COVER ASSY by removing the six hooks (L4a-f).

(2) Pull out the U/D SWITCH BOARD from the MONITOR CASE ASSEMBLY.

NOTE4a:
During the procedure, be careful in handling the FPC.

(3) Release the lock of the connector (CN4a), and remove the HINGE UNIT by lifting it up.

(4) Release the lock of the connector (CN4b), and pull out the FPC.

(5) Remove the screw (3), and Remove the MONI PWB ASSY by removing the hook (L4g).

NOTE4b:
When attaching the MONITOR BOARD ASSEMBLY, be careful to avoid any misalignment or unevenness of the parts underneath.

(6) Remove the SHEET (M.REF), LIGHT GUIDE, SHEET (M.DIFF) and the SHEET(BEF).

(7) Remove the S.CASE(MONI), LCD MODULE and the LCD CASE.

NOTE4c:
During the procedure, handle the three parts (LCD CASE, LCD MODULE, and S.CASE(MONI)) together.

●Removing HINGE UNIT ASSEMBLY

(1) Remove the screw (4), and Remove the H.COVER(U,L).

NOTE4d:
During the procedure, be careful in handling the magnet.
When attaching, set the negative pole outside as shown in the figure. Be careful when removing as there is no marking.

NOTE4e:
During the procedure, be careful in handling the FPC.

NOTE4f:
The FPC is rolled around the axis of rotation of the HINGE ASSEMBLY 2.5 rounds (2.5times).
The connecting side to the MONITOR BOARD ASSEMBLY is placed inside.

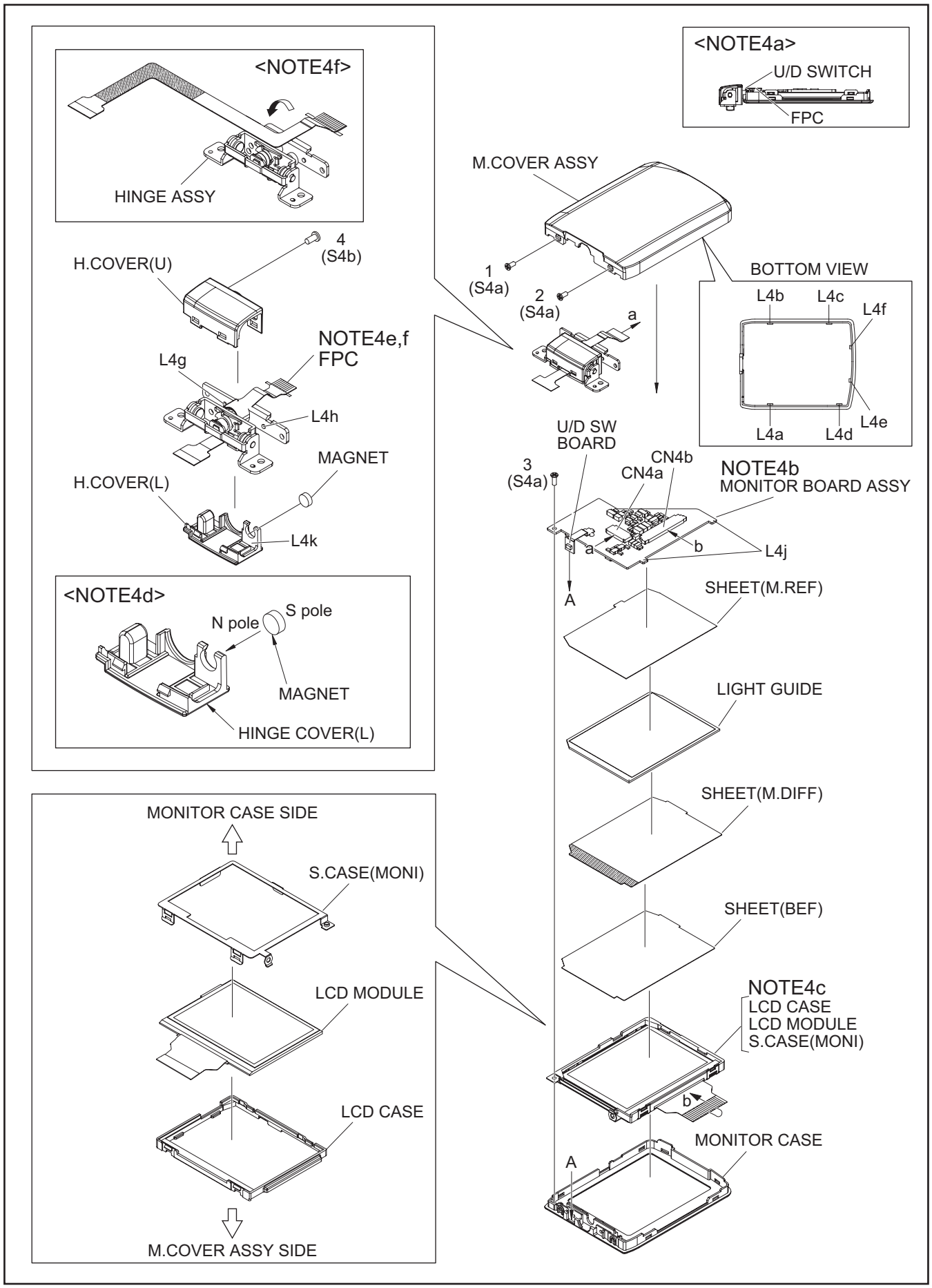

<NOTE4f>
HINGE ASSY
<NOTE4a>
U/D SWITCH
FPC
M.COVER ASSY
4
(S4b)
H.COVER(U)
1
(S4a)
2
(S4a)
a
BOTTOM VIEW
L4b
L4c
L4f
L4e
L4a
L4d
NOTE4e,f
FPC
L4g
L4h
MAGNET
H.COVER(L)
L4k
U/D SW
BOARD
3
(S4a)
CN4b
CN4a
NOTE4b
MONITOR BOARD ASSY
a
b
L4j
A
<NOTE4d>
N pole
S pole
MAGNET
HINGE COVER(L)
SHEET(M.REF)
LIGHT GUIDE
SHEET(M.DIFF)
SHEET(BEF)
MONITOR CASE SIDE
S.CASE(MONI)
LCD MODULE
LCD CASE
M.COVER ASSY SIDE
NOTE4c
LCD CASE
LCD MODULE
S.CASE(MONI)
b
MONITOR CASE
A

Fig.3-2-3

3.2.4 ASSEMBLY/DISASSEMBLY OF [13] OP BLOCK ASSMBLY/CCD BOARD ASSEMBLY

●Precautions

(1) Take care in handling the CCD IMAGE SENSOR, OPTICAL LPF and lens components when performing maintenance etc., especially with regard to surface contamination, attached dust or scratching. If fingerprints are present on the surface they should be wiped away using either a silicon paper, clean chamois or the cleaning cloth.

(2) The CCD IMAGE SENSOR may have been shipped with a protective sheet attached to the transmitting glass. When replacing the CCD IMAGE SENSOR, do not peel off this sheet from the new part until immediately before it is mounted in the OP BLOCK ASSEMBLY.

●Disassembly of OP BLOCK ASSEMBLY / CCD BOARD ASSEMBLY

(1) Remove the three screws (1-3), and then remove the BKT(OP 1M)ASSY.

NOTE13a:

During the procedure, remove the BLACKET ASSY (OP1M) if necessary.

(2) Unsolder the fourteen soldered points (SD13a) of the CCD BOARD ASSEMBLY.

(3) Remove the two screws (4, 5), and then remove the CCD BOARD ASSEMBLY and the CCD BASE ASSEMBLY.

NOTE13b:

Be careful in handling as there are only the OPTICAL LPF and the SHEET stored inside the OP BLOCK ASSY when the CCD BASE ASSY is removed.

NOTE13c:

Replace the CCD IMAGE SENSOR as a CCD BASE ASSEMBLY, not as a single part replacement.

●Assembly of OP BLOCK ASSEMBLY / CCD BOARD ASSEMBLY

(1) Set the OPTICAL LPF first, and then the SHEET to the OP BLOCK ASSEMBLY.

NOTE13d:

Pay careful attention to the orientation of the OPTICAL LPF.

(2) Attach the CCD BASE ASSEMBLY first then the CCD BASE ASSEMBLY so that the SHEET stays in place, and tighten with the two screws (4, 5).

(3) Solder the 14 points (SD13a) on the CCD BOARD ASSY.

●Replacement of service repair parts

The service repair parts for the OP BLOCK ASSEMBLY are as listed below.

Before replacement of these parts, remove the BRACKET (OP BLOCK ASSEMBLY) as required.

Take special care not to disconnect any of the FPC wires or cause any damage due to soldering (excessive heating).

(1) FOCUS MOTOR UNIT

(2) ZOOM MOTOR UNIT

(3) AUTO IRIS UNIT

NOTE 13e:

When replacing the FOCUS MOTOR UNIT or the ZOOM MOTOR UNIT, solder the FPC at a space of about 0.5 mm above the terminal pin.

NOTE 13f:

The AUTO IRIS UNIT includes the FPC ASSEMBLY and two sensors.

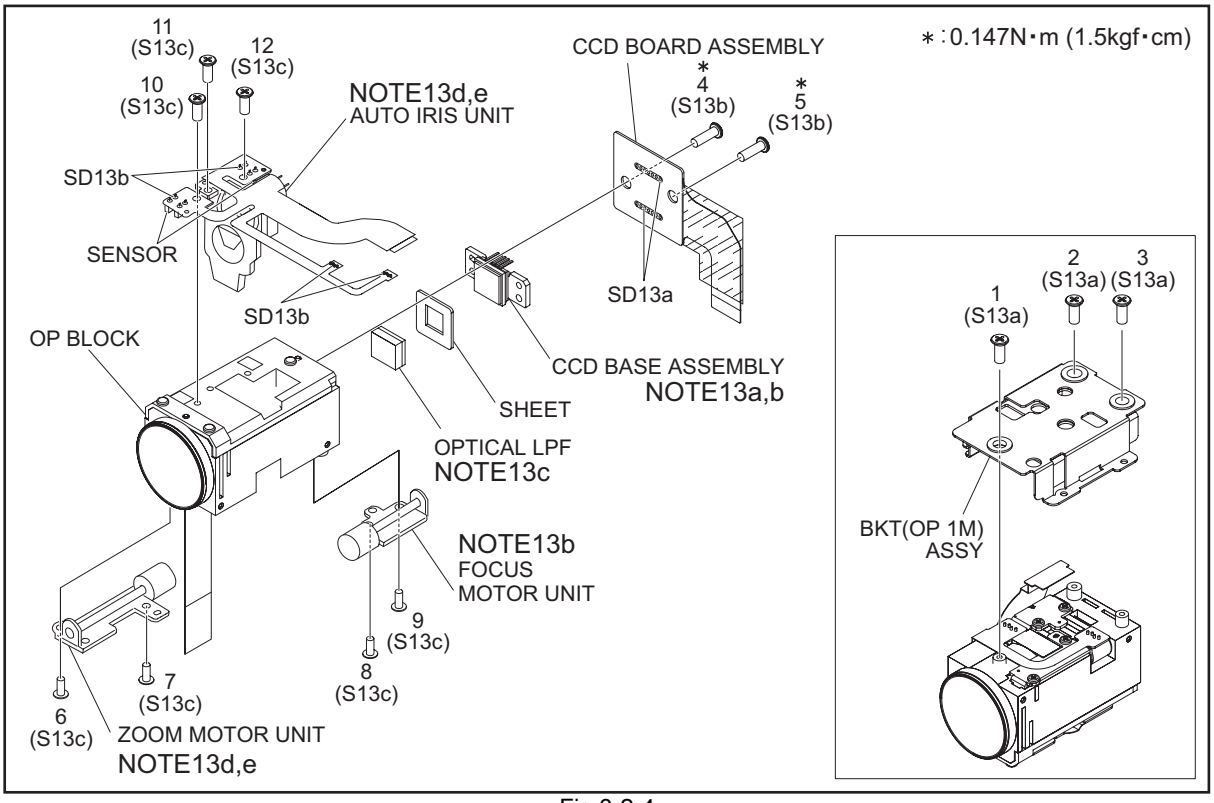


Fig.3-2-4

3.2.5 ASSEMBLY/DISASSEMBLY OF [9] VF ASSEMBLY

●Before disassembly

As the VF ASSEMBLY has complicated structure, do not disassemble if not needed.

When assembling, be careful to prevent dust or any foreign materials entering inside, and avoid soils on both the LENS and the SHEET.

●Disassembly procedure

(1) Remove the screw (1), and then remove the KNOB (SWITCH).

(2) Remove the screw (2), and remove the BKT.(COVER).

(3) Pull out the CASE(VF) from the VF ASSY, remove the screw (3), and then remove the EYE CUP.

(4) Remove the two screws (4, 5), and then remove the COVER(EYE CUP).

NOTE9a:

Do not remove the COVER(EYE CUP) if not needed as the CASE(VF) can be removed without removing the COVER(EYE CUP).

(5) Peel off the FPC, and then remove the CASE(VF).

NOTE9b:

During the procedure, be careful in handling the FPC.

(6) Set the LEVER(VF) to the TRIANGLE MARK(▽) of the CASE(VF), and then remove the LENS ASSY.

NOTE9c:

During the procedure, be careful in handling the parts. Pay special attention not to damage, soil, or leave fingerprints on the surface.

NOTE9d:

After attaching the LENS ASSY, rotate the LEVER(VF) counterclockwise to check the smooth sliding operation of the LENS ASSY.

(7) Press hooks (L9c,d) on both sides of the HOLDER(LCD) to remove the LCD SA from the CASE(VF).

NOTE9e:

During the procedure, be careful not to damage the VF SW.

NOTE9f:

Refer to the Fig.(VF2) for the disassembly of the LCD SA, and disassemble the LCD SA if necessary. During the procedure, be careful to prevent dust or any foreign materials entering inside.

(8) Remove the FPC from the connector (CN9), and then remove the VF BOARD ASSY.

NOTE9g:

During the procedure, be careful not to damage the parts.

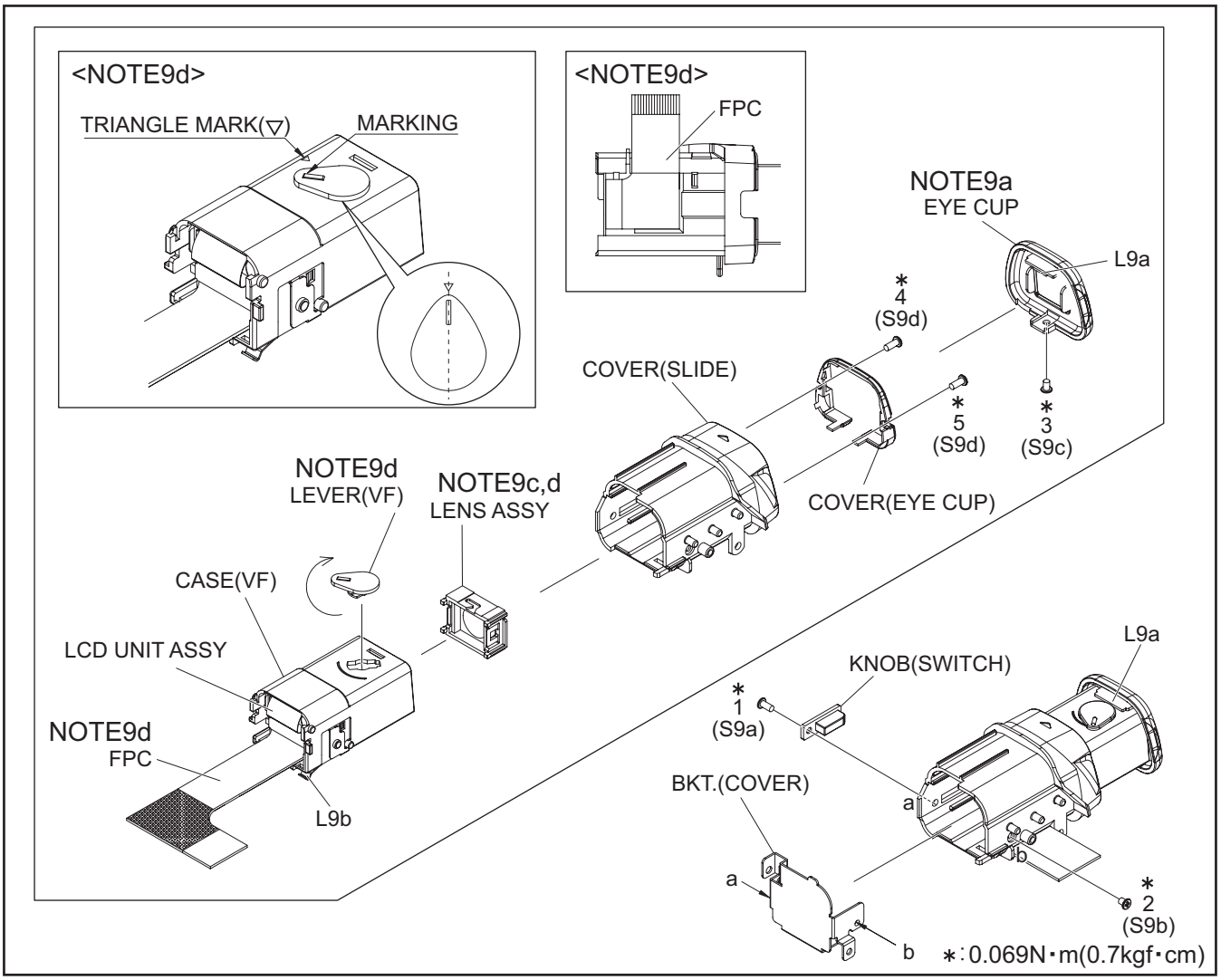


Fig.VF1

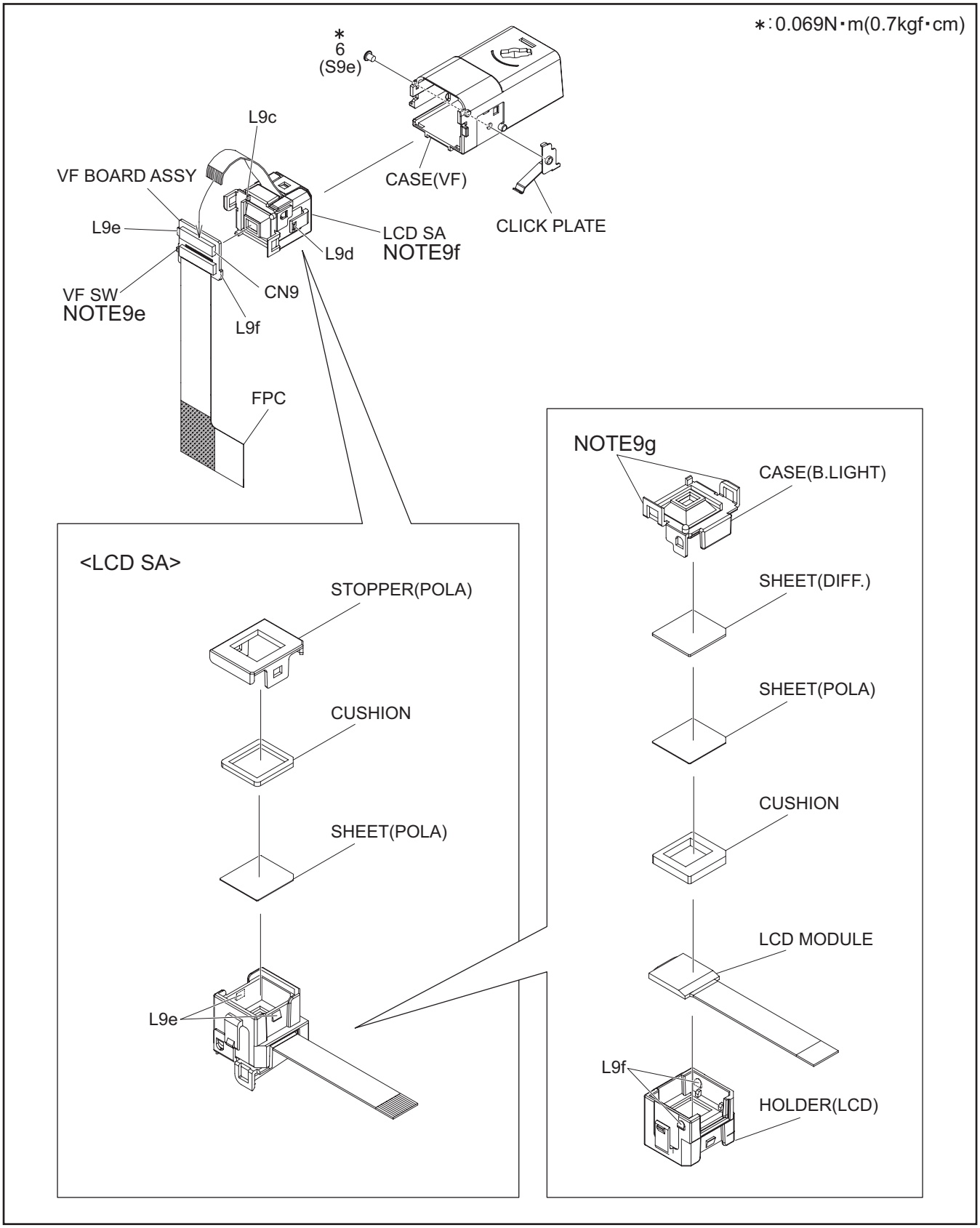

＊：0.069N・m(0.7kgf・cm)
＊6
(S9e)
L9c
VF BOARD ASSY
CASE(VF)
L9e
LCD SA
NOTE9f
L9d
CLICK PLATE
VF SW
NOTE9e
CN9
L9f
FPC
NOTE9g
CASE(B.LIGHT)
<LCD SA>
STOPPER(POLA)
SHEET(DIFF.)
SHEET(POLA)
CUSHION
CUSHION
SHEET(POLA)
LCD MODULE
L9e
L9f
HOLDER(LCD)

Fig.VF2

SECTION 4
ADJUSTMENT

4.1 PREPARATION

4.1.1 Precaution

Camera system and deck system of this model are specially adjusted by using PC.
However, if parts such as the following are replaced, an adjustment is required. The adjustment must be performed in a Service Center equipped with the concerned facilities.

- EEP ROM (IC1005 of MAIN board)
- OP BLOCK ASSEMBLY
- MONITOR ASSEMBLY
- VF ASSEMBLY

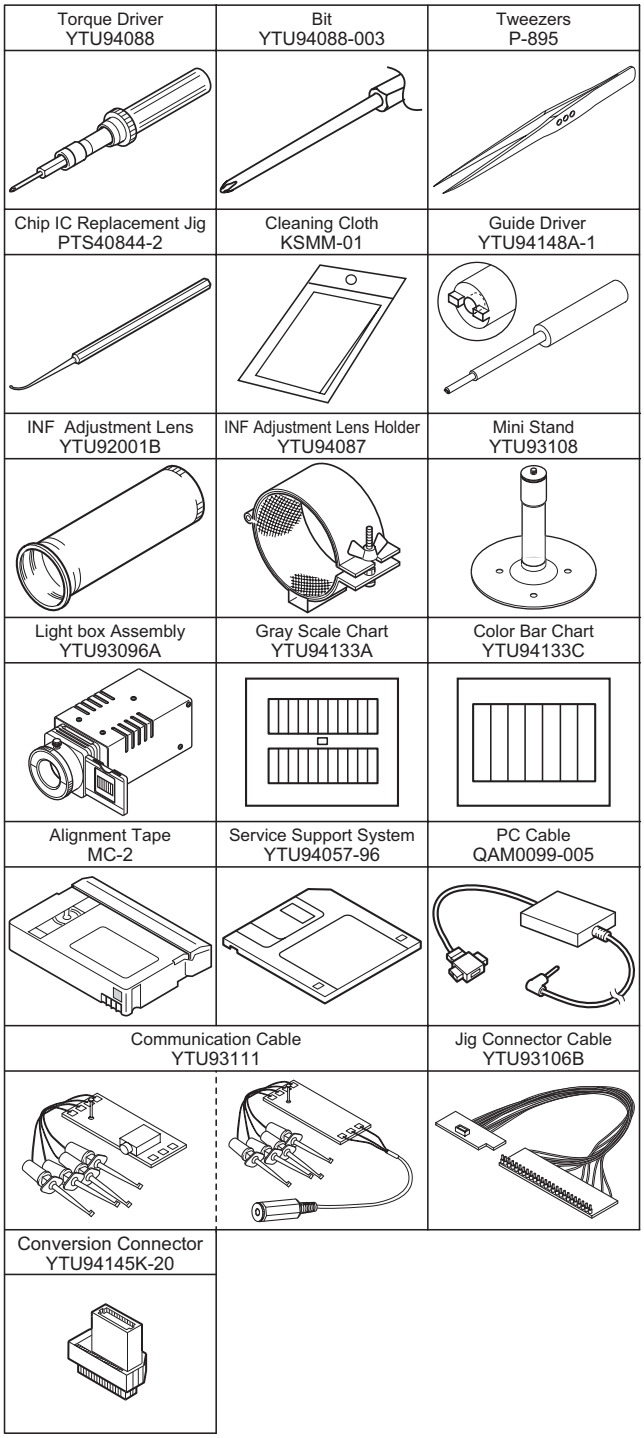
In the event of malfunction with electrical circuits, first find a defective portion with the aid of proper test instruments as shown in the following electrical adjustment procedure, and then commence necessary repair/ replacement/adjustment.

- In observing chip TP, use IC clips, etc. to avoid any stress. Prior to replacement of chip parts (especially IC), remove the solder completely to prevent peeling of the pattern.
- Use a patch cord if necessary. As for a patch cord, see the BOARD INTERCONNECTIONS.
- Since connectors are fragile, carefully handle them in disconnecting and connecting the FPC.

4.1.2 REQUIRED TEST EQUIPMENT

- Personal computer (for Windows)
- Color TV monitor
- Oscilloscope (dual-trace type, observable 100MHz or higher frequency). The one observable 300 MHz or higher frequency is recommended.
- Digital voltmeter
- DC power supply or AC adapter
- Frequency counter (with threshold level adjuster)

4.1.3 TOOLS REQUIRED FOR ADJUSTMENT



- **Torque driver**
  Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.
- **Bit**
  This bit is slightly longer than those set in conventional torque drivers.
- **Tweezers**
  To be used for removing and installing parts and wires.

- **Chip IC replacement jig**
  To be used for adjustment of the camera system.
- **Cleaning cloth**
  Recommended the Cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.
- **Guide driver**
  To be used to turn the guide roller to adjustment of the linarity of playback envelope.
- **INF adjustment lens**
  To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.
- **INF adjustment lens holder**
  To be used together with the Camera stand for operating the Videocamera in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring. For the usage of the INF lens holder, refer to the Service Bulletin No. YA-SB-10035.
- **Mini stand**
  To be used together with the INF adjustment lens holder. For the usage of the Mini stand, refer to the Service Bulletin No. YA-SB-10035.
- **Light box assembly**
  To be used for adjustment of the camera system. For the usage of the Light box assembly, refer to the Service Bulletin No. YA-SB-10035.
- **Gray scale chart**
  To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.
- **Color bar chart**
  To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.
- **Alignment tape**
  To be used for check and adjustment of interchangeability of the mechanism.
- **Service support system**
  To be used for adjustment with a personal computer. Software can be downloaded also from JS-net.
- **PC cable**
  To be used to connect the Videocamera and a personal computer with each other when a personal computer issued for adjustment.
- **Communication cable**
  Connect the Communication cable between the PC cable and Jig connector cable when performing a PC adjustment.
- **Jig connector cable**
  Connected to JIG CONNECTOR of the main board and used for electrical adjustment, etc.
- **Conversion connector**
  Conversion connector is used to convert the connector part of the JIG connector cable.

4.2 JIG CONNECTOR CABLE CONNECTION

4.2.1 CAUTIONS

(1) Only 9 of 30pins of JIG CONNECTOR CABLE(PN:YTU93106B) are extended with wires. Additional 5pins (3,6,7,11and18) need to be soldered and extended with the wires for adjustment and checking.
See Fig. 4-2-1 for details.

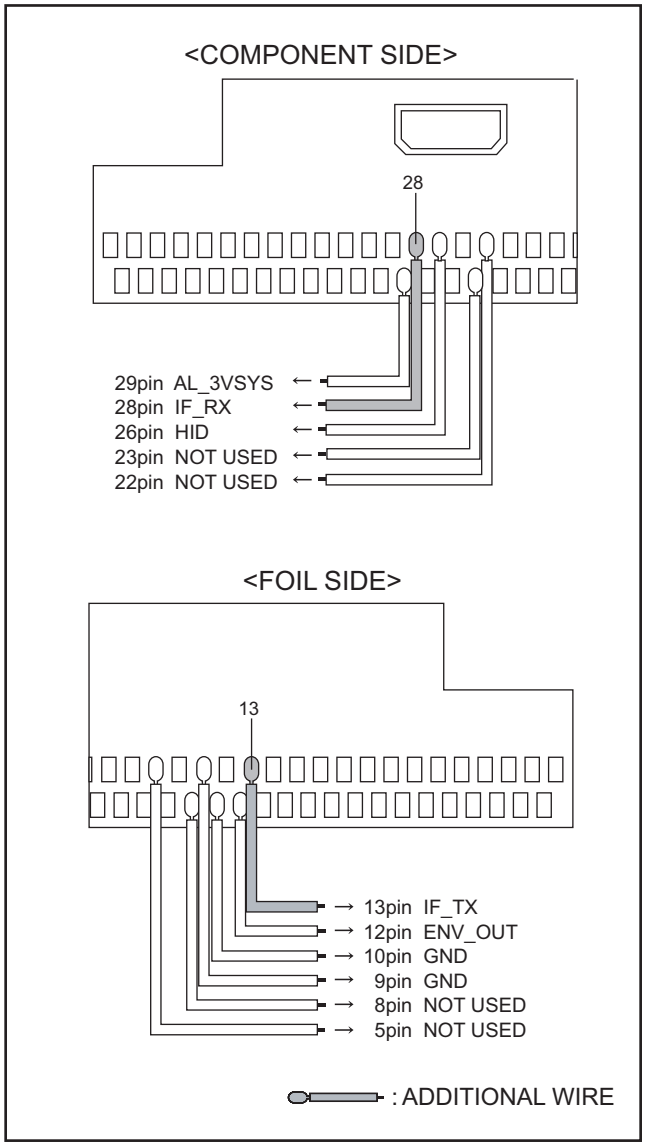


Fig.4-2-1

■ **Connection procedure**

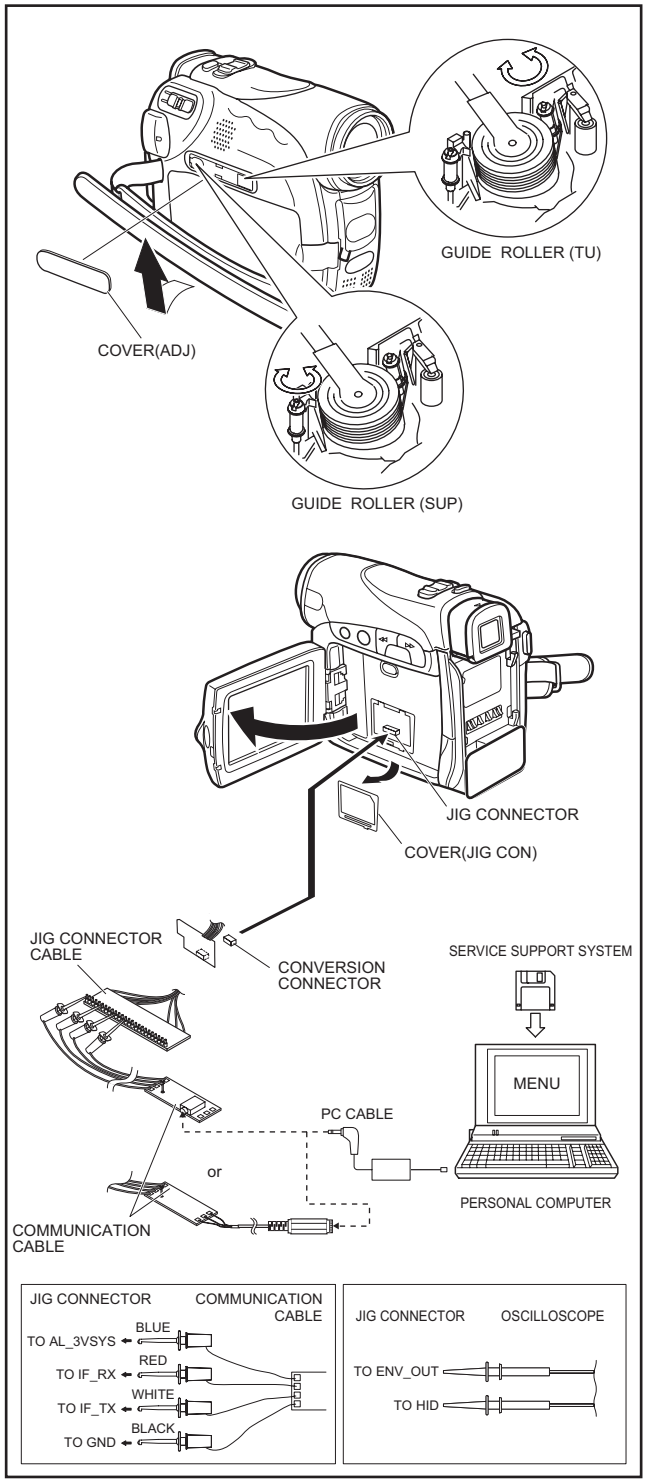


Fig.4-2-2

■ **Jig connector diagrams**

JIG CONNECTOR CABLE (YTU93106B)

MAIN CN102

MVD		20
JIG_VOUT	10	
MON_G		19
MON_R	9	
MON_B		18
CVF_G	8	
COM_VF		17
GND	7	
FS_PLL		16
GND	6	
HID		15
ATFI	5	
MAIN_VCO		14
ENV_OUT	4	
IF_RX		13
IF_TX	3	
AL_3VSYS		12
IRU	2	
KENTO		11
KENTO2	1	

JIG CONN. BOARD (PIN NO.)

30	-
29	AL_3VSYS
28	IF_RX
27	-
26	HID
25	-
24	-
23	-
22	-
21	-
20	NC
19	NC
18	NC
17	NC
16	NC
15	-
14	-
13	IF_TX
12	ENV_OUT
11	-
10	GND
9	GND
8	-
7	-
6	-
5	NC
4	NC
3	NC
2	NC
1	NC

ADDITIONAL WIRE

13. IF_TX
28. IF_RX

Fig.4-2-3

■ **Conversion Connector**

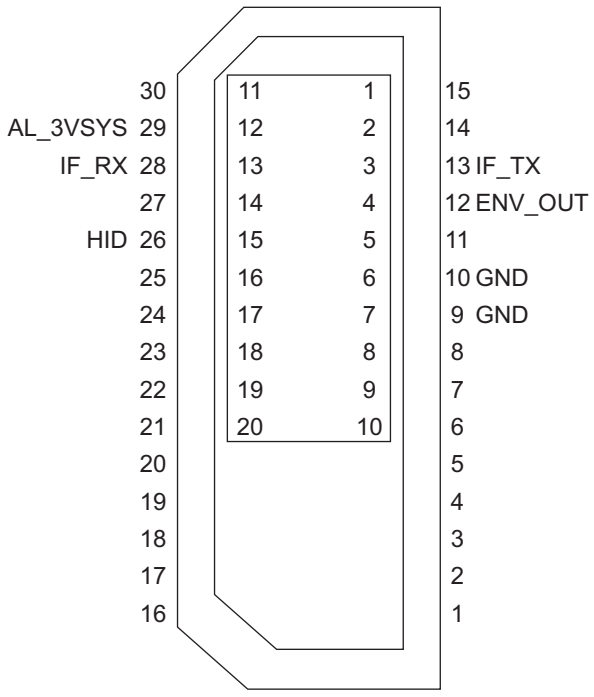


Fig.4-2-4

4.3 MECHANISM COMPATIBILITY ADJUSTMENT

4.3.1 Tape pattern adjustment

NOTE:

Prior to the adjustment, remove the COVER (ADJ).

(1) Play back the compatibility adjustment tape.
(2) While triggering the HID, observe the waveform of ENV_OUT.
(3) Set the manual tracking mode (ATF OFF).
(4) Confirm that the waveform is entirely parallel and straight, and free from remarkable level-down, through the tracking operation.
Make the confirmation as follows if necessary.
(5) If level-down is observed on the left hand side of the waveform, straighten the level by turning the GUIDE ROLLER (SUP).
If level-down is observed on the right hand side of the waveform, straighten the
level by turning the GUIDE ROLLER (TU).
(6) After the adjustment, try the unloading motion once, and confirm that the waveform is flat when the tape has been played back again.
(7) Play back the self-recording.
(8) Confirm that the waveform is flat.

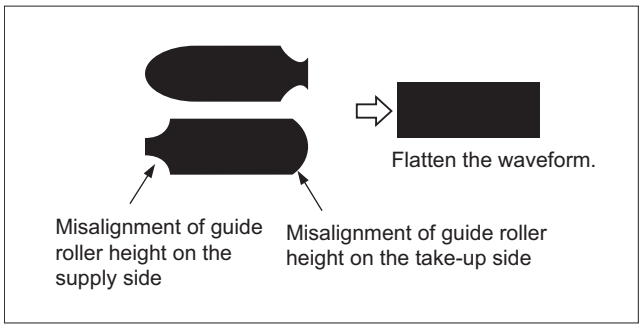

Flatten the waveform.
Misalignment of guide roller height on the supply side
Misalignment of guide roller height on the take-up side

Fig.4-3-1

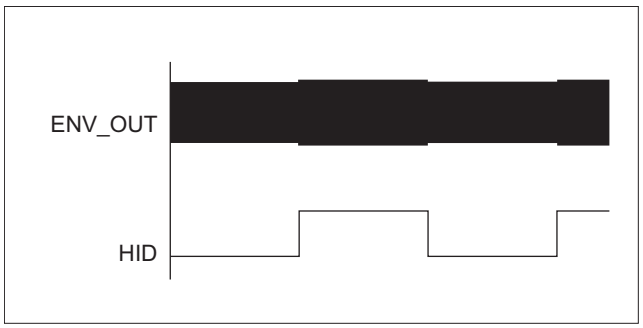


Fig.4-3-2

4.4 ELECTRICAL ADJUSTMENT

Electrical adjustment is performed by using a personal computer and software for SERVICE SUPPORT SYSTEM. Read README.TXT file to use the software properly.
As for the connection of cables, see "4.2 JIG CONNECTOR CABLE CONNECTION".

CABINET PARTS AND ELECTRICAL PARTS(1)

Symbol No.	[1]							[2]					[3]		[4]		[5]			[6]			[7]			[8]			
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Place to stick screw	**			**	**	**	**	*					*	*								**	*	*	*	*	*	*
Reference drawing (Fig.No.)	FA1-1							UA1					UA2		UA3		UA4					FA2			FA3			
Screw tightening torque	a														b		a											

CABINET PARTS AND ELECTRICAL PARTS(2)

Symbol No.	[9]			[10]			[11]	[12]	[13]				[14]			[15]	[16]			
Removing order of screw	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Place to stick screw		**	*		*	**	*	*	**	*	*	*	*	*	*	**				
Reference drawing (Fig.No.)	FA4			FA5			FA6	FA7					FA8			FA9				
Screw tightening torque	a																c			

[4]MONITOR ASSY

Symbol No.	[4]			
Removing order of screw	1	2	3	4
Place to stick screw	**	**	*	
Reference drawing (Fig.No.)	3-2-3			
Screw tightening torque	a			

[9]VF ASSY

Symbol No.	[9]					
Removing order of screw	1	2	3	4	5	6
Place to stick screw	**	*				*
Reference drawing (Fig.No.)	VF1					VF2
Screw tightening torque	e					

[13]OP BLOCK ASSY/CCD BOARD ASSY

Symbol No.	[13]											
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12
Place to stick screw												
Reference drawing (Fig.No.)	3-2-4											
Screw tightening torque	a			d		a						

NOTE:

1) * and ** (This mark shows where to attach the screws) : Do not reuse the screws because the screw lock bond was applied to prevent the screws from loosening. Prepare the specified screws and use them in place of the removed screws.

2) Tightening torque for the screws

- There are setting limits of the torque value for the torque driver. If the value exceeds the setting value, take it as a rough measurement (reference value), and tighten the screw manually.
- The specified torque value is a recommended value of the initial assembly. Therefore, set the value below the specified torque value in the assembling procedure. Be careful not to break either the screws or the screw holes.

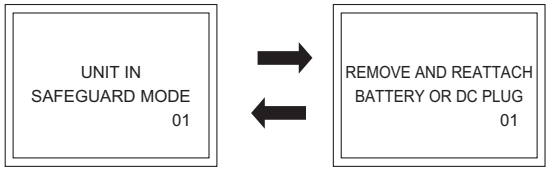
a : 0.098N·m (1.0kgf·cm) b : 0.196N·m (2.0kgf·cm) c : 0.088N·m (0.9kgf·cm) d : 0.147N·m (1.5kgf·cm) e : 0.069N·m (0.7kgf·cm)

5.2 EMERGENCY DISPLAY

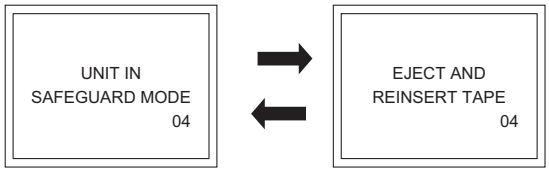
Whenever some abnormal signal is input to the syscon CPU, an error number (01 and 04, as an example) is displayed on the LCD monitor or (in the electronic view finder).In every error status, such the message as shown below alter nately appear over and over.

- In an emergency mode, all operations except turning on/off the POWER switch are ineffectual.

Example (in case of the error number 01):



Example (in case of the error number 04):



LCD display	Emergencymode	Details	Possible cause
01	LOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the loading direction for 4 seconds or more. This error is defined as [01].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift. 3. No power is supplied to the loading MDA.
02	UNLOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the unloading direction for 4 seconds or more. This error is defined as [02].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift.
03	REEL FG(TU & SUP)	In the case no REEL FG is produced for seconds shown in the table below or more in the capstan rotation mode after loading was complete, the mechanism mode is shifted to STOP with the pinch roller set off. This error is defined as [03].However, no REEL EMG is detected in the SLW/STILL mode. REEL(SUP) / REEL(TU) PB/REC: 3 SEC / 3 SEC S-FWD: 3 SEC / 0.3 SEC S-REW: 0.3 SEC / 3 SEC FF: 3 SEC / 0.1 SEC REW: 0.1 SEC / 3 SEC	1. The idler gear does not engage with the reel disk well. 2. Though the idler gear and reel disk are engaged with each other, the tape is not wound because of overload to the mechanism. 3. No FG pulse is output from the reel sensor. 4. No power is supplied to the reel sensor. 5. Tape transport operation takes place with a cassette having no tape inside. 6. The tape slackens and no pulse is produced until the slack is taken up and the tape comes into the normal status.
04	DRUM FG	In the case there is no DRUM FG input in the drum rotation mode for 4 seconds or more. This error is defined as [04], and the mechanism mode is shifted to STOP with the pinch roller set off.	1. The drum cannot be started or drum rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. 2) The tape is damaged or soiled with grease, etc. 2. The DRUM FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the DRUM FG pulse generator (hall element). 3. No drum control voltage is supplied to the MDA. 4. No power is supplied to the DRUM MDA.
05	-	-	-
06	CAPSTAN FG	In the case no CAPSTAN FG is produced in the capstan rotation mode for 2 seconds or more. This error is defined as [06], and the mechanism mode is shifted to STOP with the pinch roller set off.However, no CAPSTAN EMG is detected in the STILL/FF/REW mode.	1. The CAPSTAN FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the CAPSTAN FG pulse generator (MR element). 2. No capstan control voltage is supplied to the MDA. 3. The capstan cannot be started or capstan rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. (Mechanical locking) 2) The tape is damaged or soiled with grease, etc. (Tape tangling occurs, etc.)

Fig.5-2-1

JVC
Victor Company of Japan, Limited
Camcorder Category 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YF142)

Printed in Japan
VPT

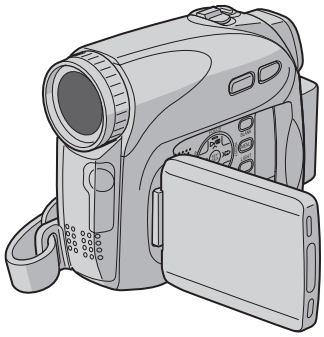
JVC

SCHEMATIC DIAGRAMS

DIGITAL VIDEO CAMERA

GR-D640EX, GR-D640EY, GR-D640EZ, GR-D645EG, GR-D650EX, GR-D650EY, GR-D650EZ

CD-ROM No.SML200605



Mini DV PAL

SD

MultiMediaCard

GR-D640EXM, GR-D640EYM, GR-D640EZM, GR-D645EGM [M6D2S6],
GR-D650EXM, GR-D650EYM, GR-D650EZM [M6D2S7]

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.YF081(MECHANISM ASSEMBLY).
Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

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No.YF142SCH
2006/5

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components indentified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ(1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

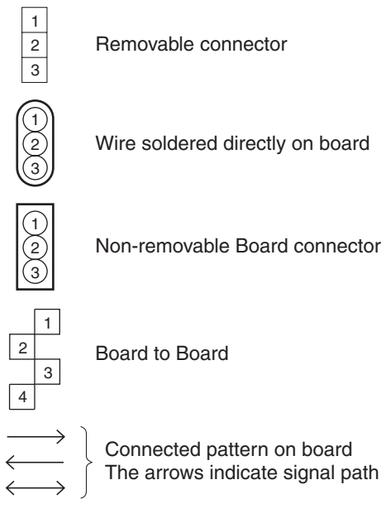
Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

AUX : Active at high.

$\overline{AUX}$ or AUX(L) : Active at low.

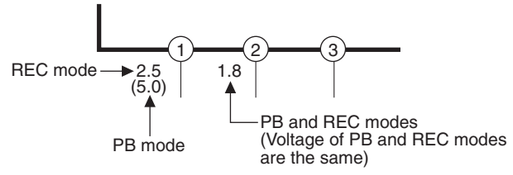
3. Interpreting Connector indications



Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

1) Regulator (DC/DC CONV) circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar).
   — : Unmeasurable or unnecessary to measure.
2) Indication on schematic diagram
   Voltage indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

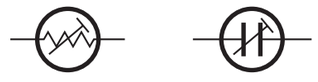
- Playback signal path
- Playback and recording signal path (including E-E signal path)
- Capstan servo path
- Drum servo path

(Example)

- R-Y — Playback R-Y signal path
- Y — Recording Y signal path

6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

CIRCUIT BOARD NOTES

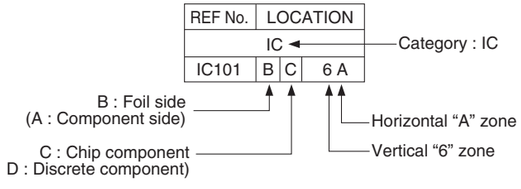
1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

rts location are indicated by guide scale on the circuit board.

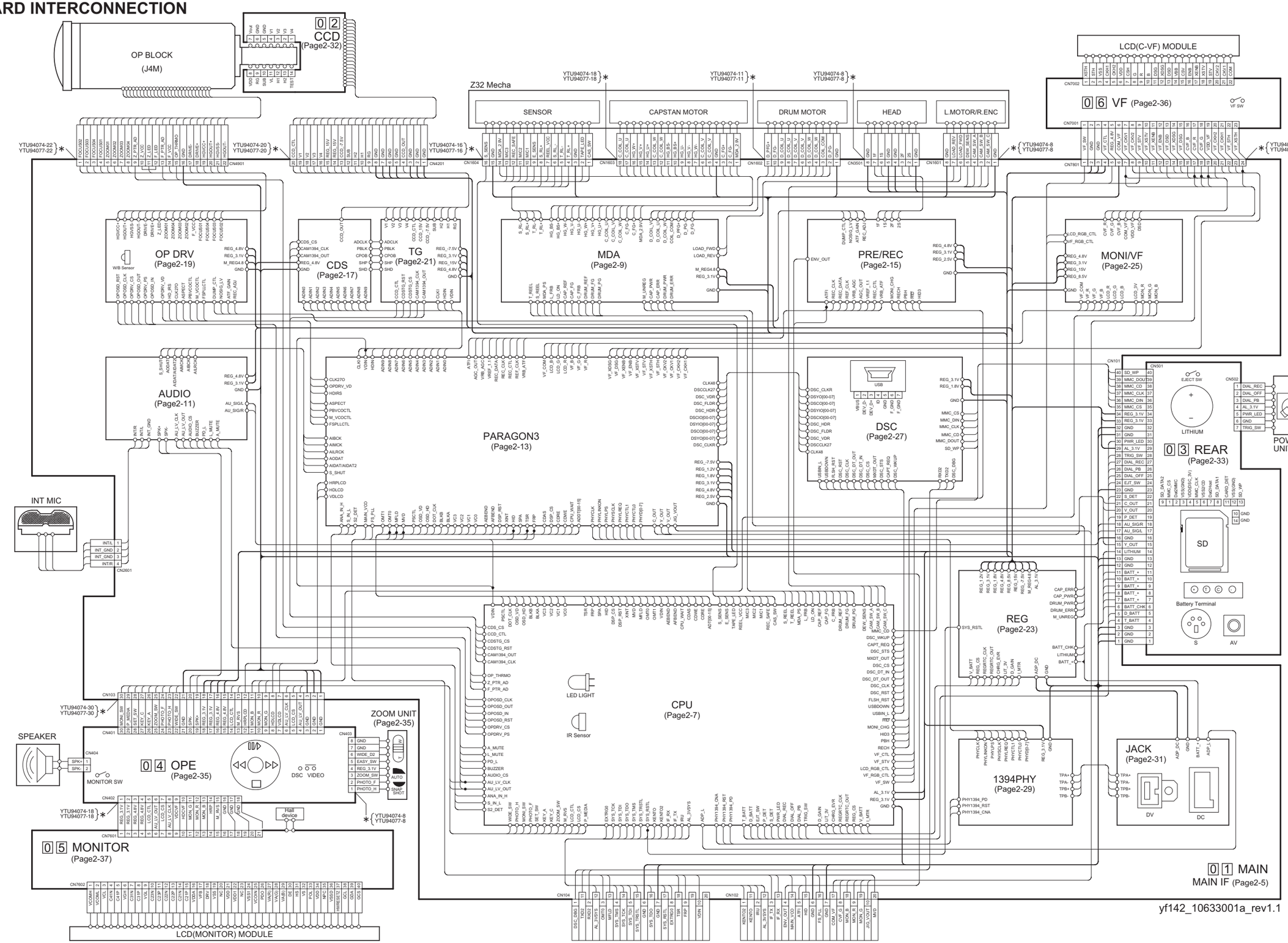
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



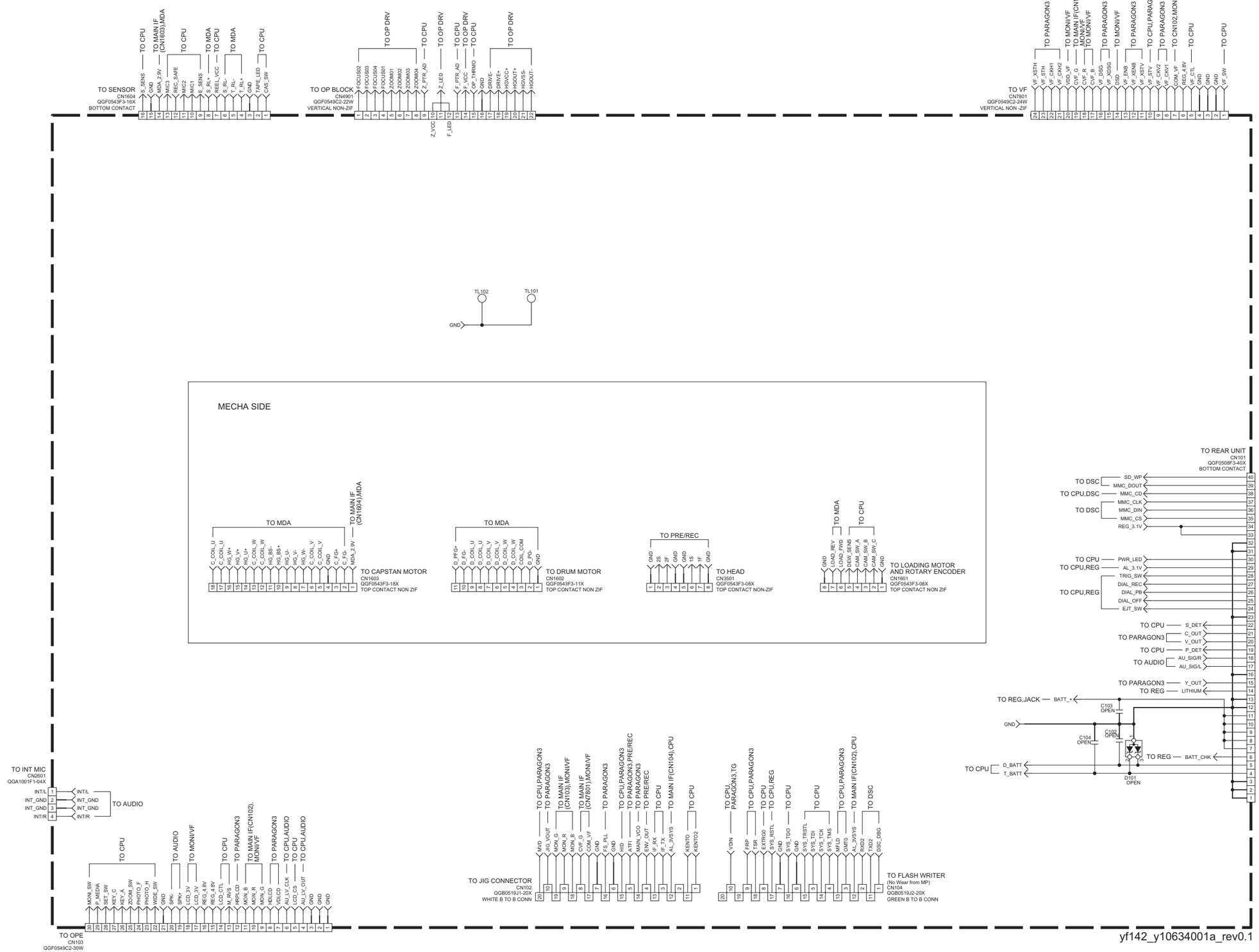
Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

■ BOARD INTERCONNECTION



NOTES: The number of patch cords (∗) are indicated by interconnected.

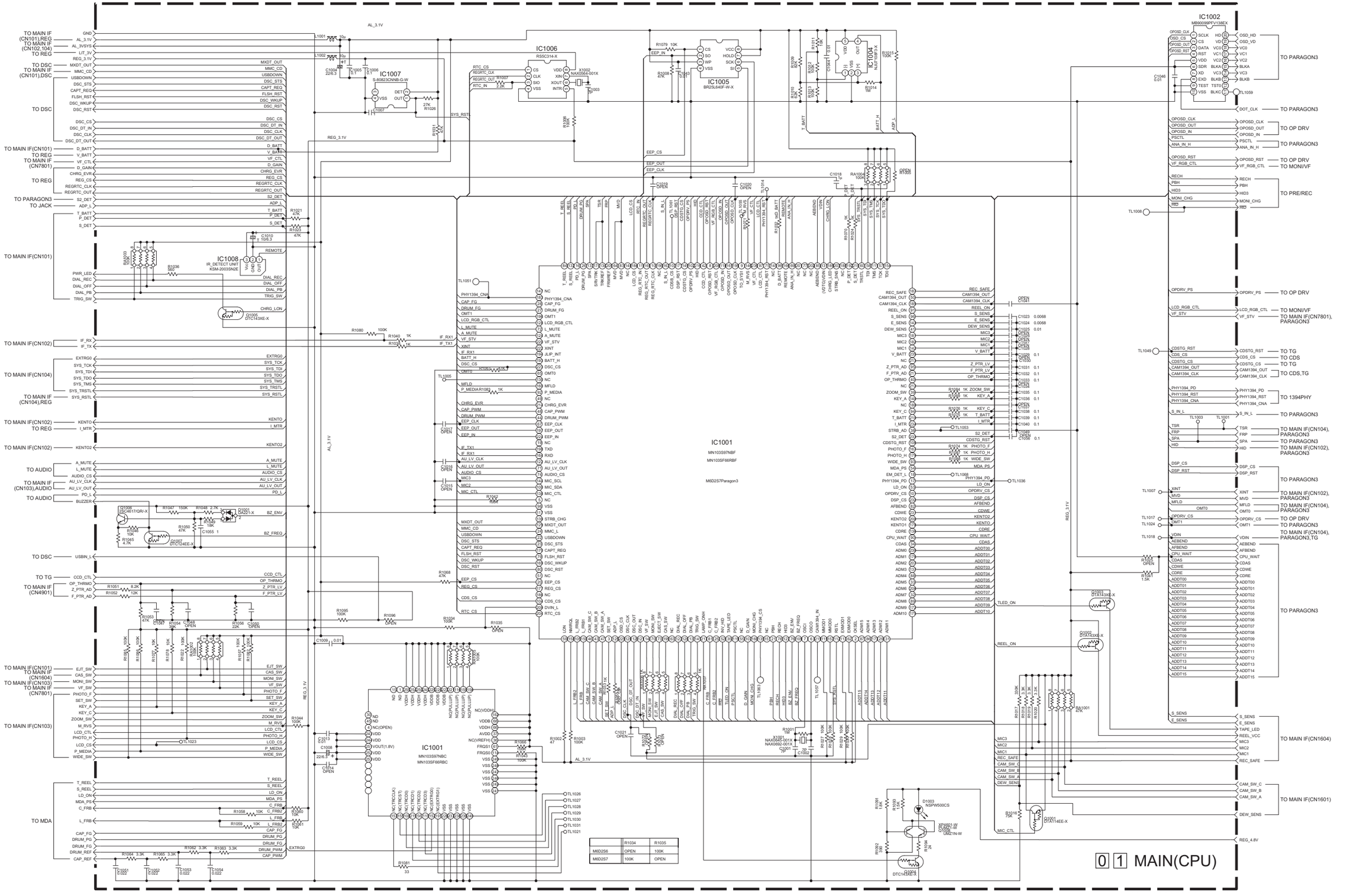
■ MAIN(MAIN IF) SCHEMATIC DIAGRAM



yf142_y10634001a_rev0.1

NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

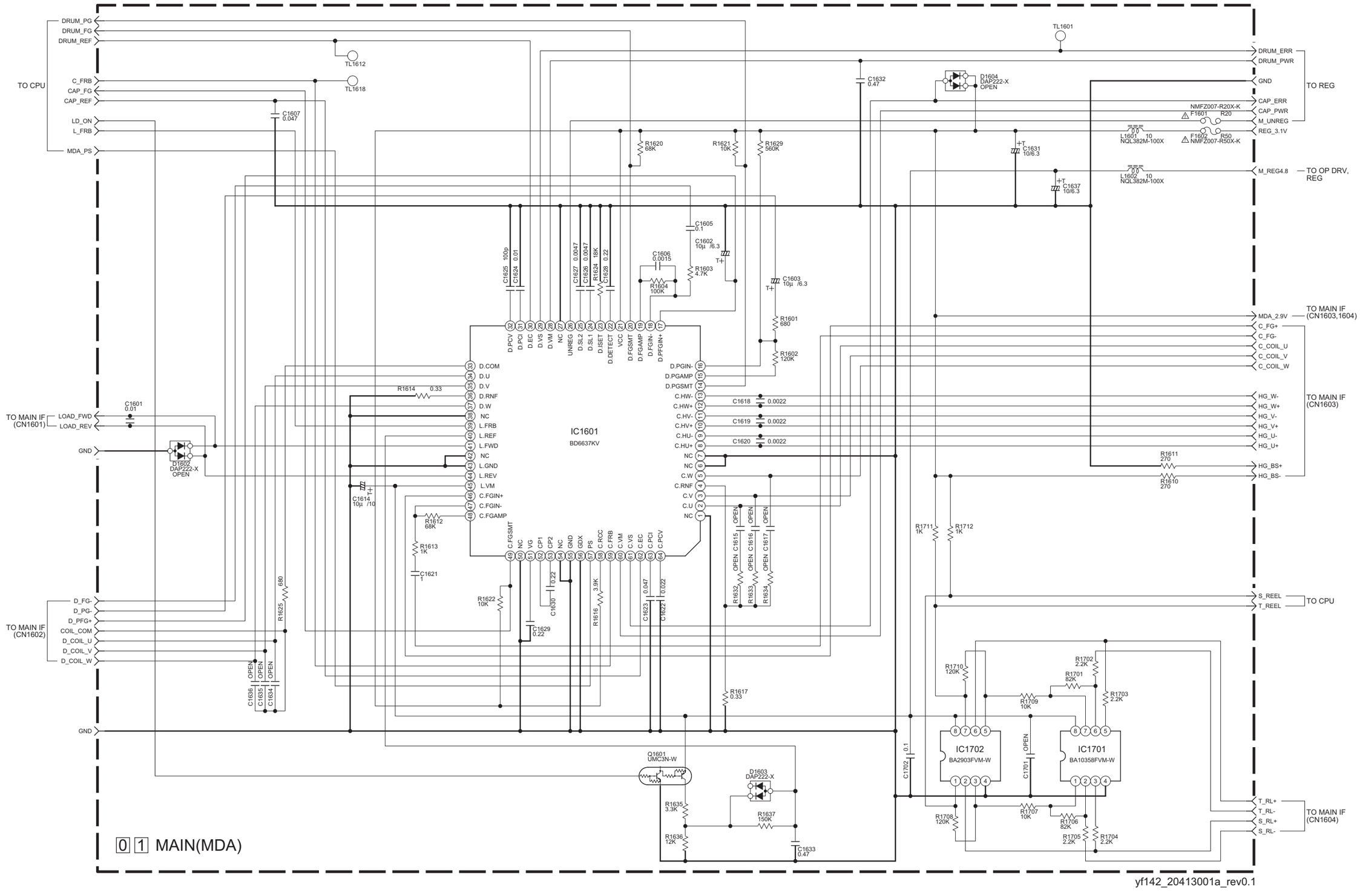
■ MAIN(CPU) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

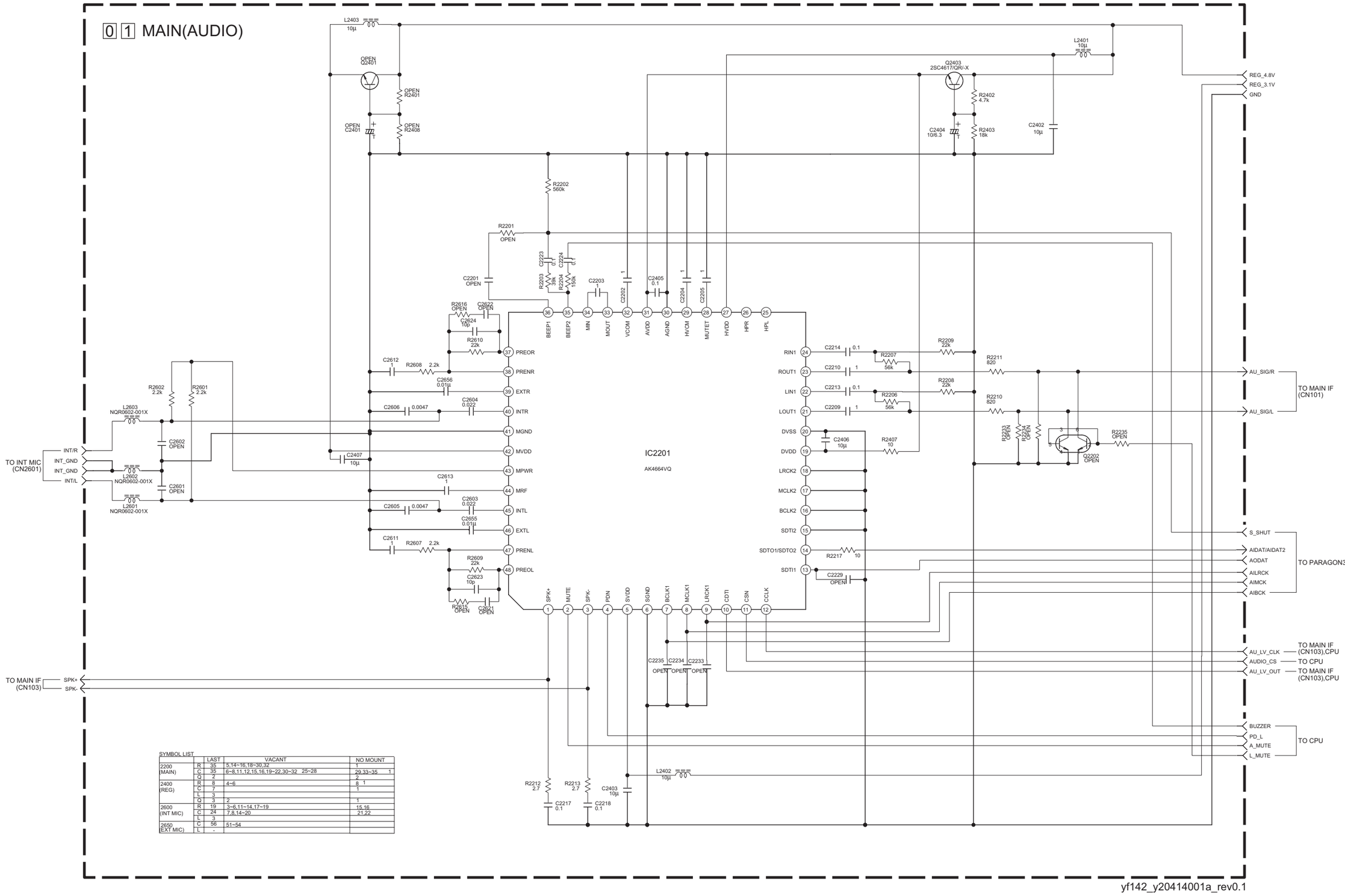
yf142_y10635001a_rev1.1

■ MAIN(MDA) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

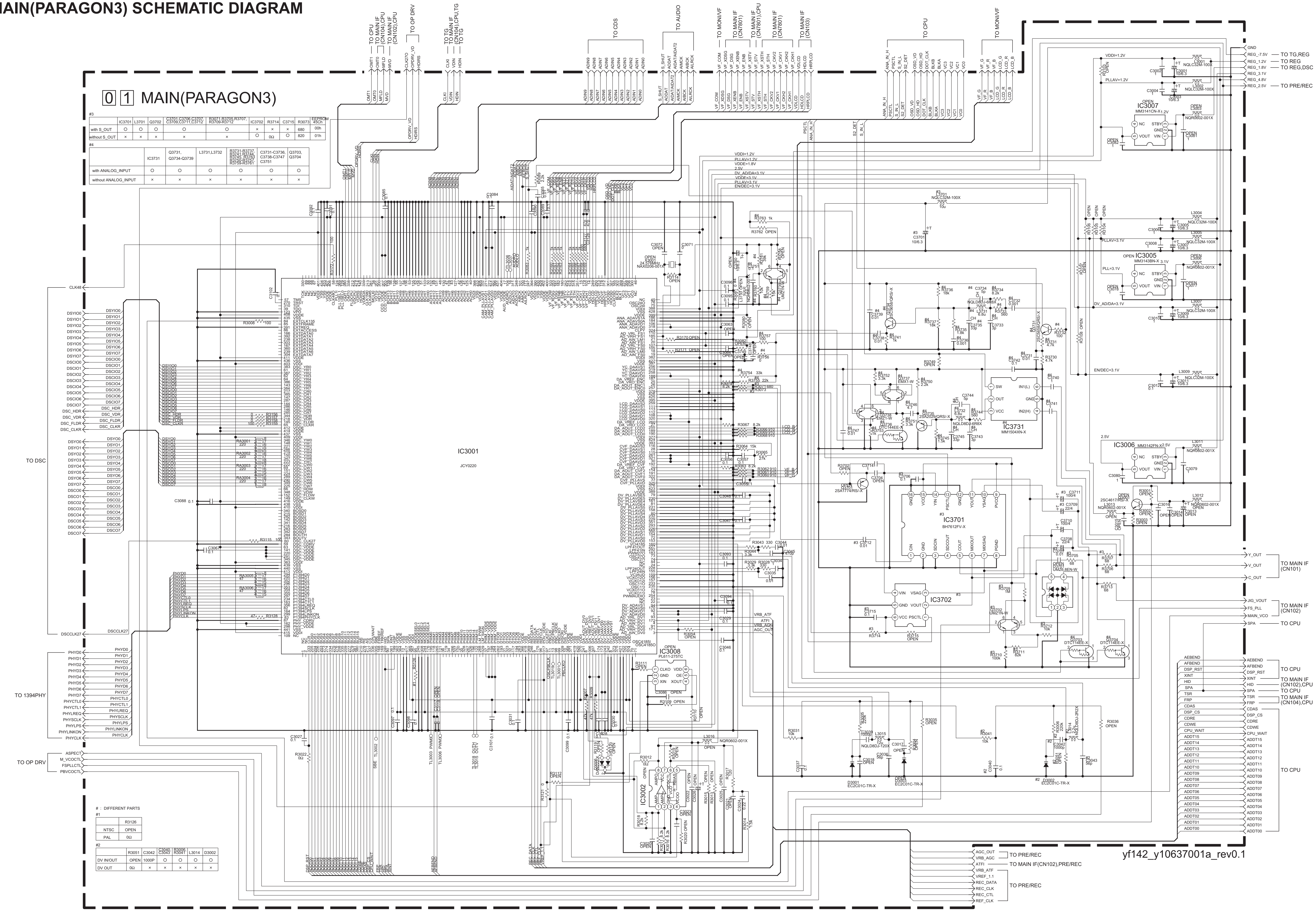
■ MAIN(AUDIO) SCHEMATIC DIAGRAM



SYMBOL LIST		LAST	VACANT	NO MOUNT
2200 (MAIN)	R	35	5,14~16,18~30,32	1
	C	35	6~8,11,12,15,16,19~22,30~32 25~28	29,33~35 1
	Q	2		2
2400 (REG)	R	8	4~6	8 1
	C	7		1
	L	3		
	Q	3	2	1
2600 (INT MIC)	R	19	3~6,11~14,17~19	15,16
	C	24	7,8,14~20	21,22
	L	3		
2650 (EXT MIC)	C	56	51~54	
	L	-		

NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN(PARAGON3) SCHEMATIC DIAGRAM



#3

	IC3701	L3701	Q3702	C3701,C3706,C3707, C3709,C3711,C3712	R3071,R3705,R3707, R3709-R3712	IC3702	R3714	C3715	R3073	EEPROM 45Ch
with S_OUT	○	○	○	○	○	×	×	×	680	00h
without S_OUT	×	×	×	×	×	○	0Ω	○	820	01h

#4

	IC3731	Q3731, Q3734-Q3739	L3731,L3732	R3731-R3737, R3741,R3744, R3745, R3763 R3750-R3757, R3759-R3761	C3731-C3736, C3738-C3747 C3751	Q3703, Q3704
with ANALOG_INPUT	○	○	○	○	○	○
without ANALOG_INPUT	×	×	×	×	×	×

: DIFFERENT PARTS

#1

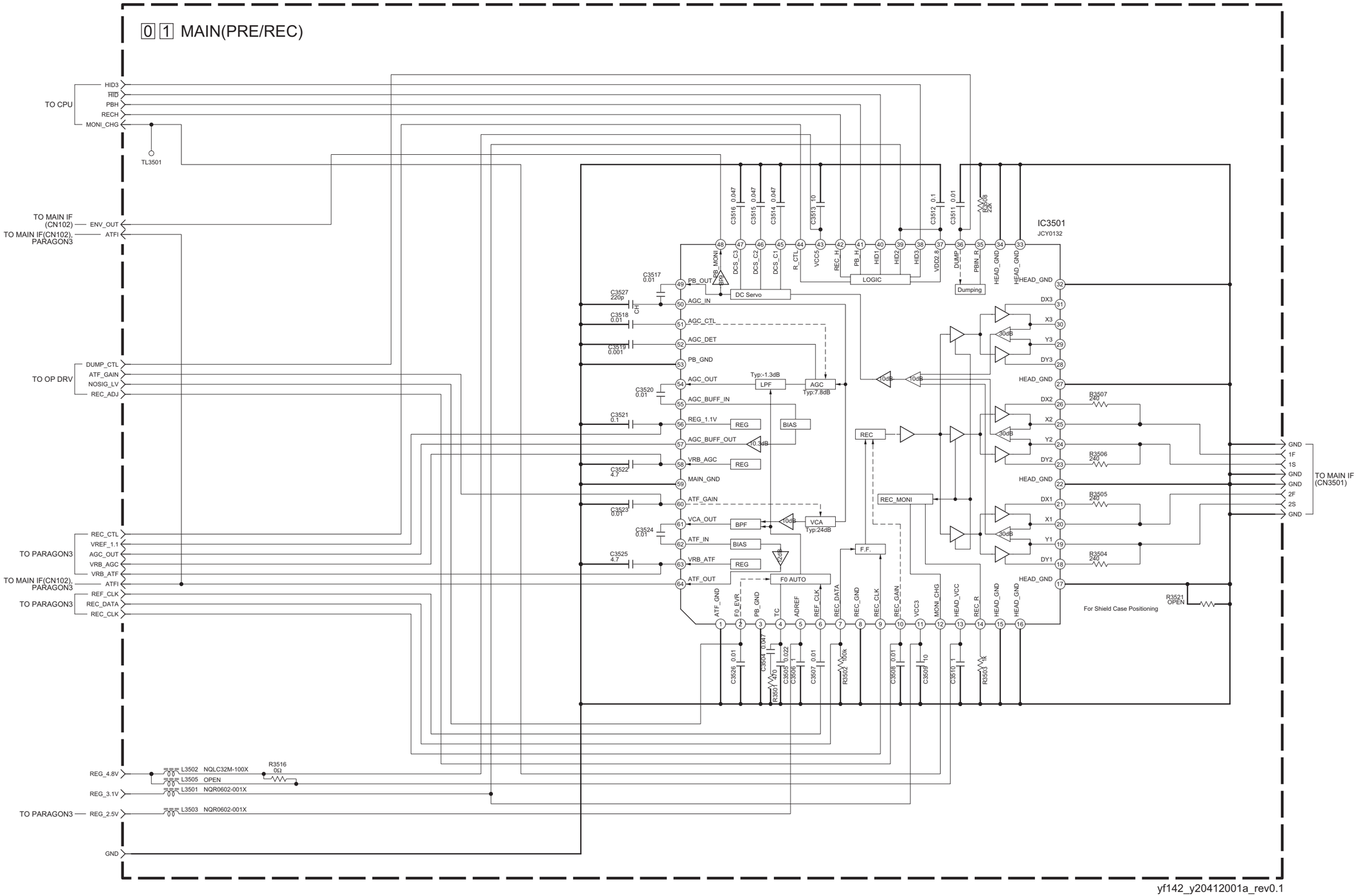
	R3126
NTSC	OPEN
PAL	0Ω

#2

	R3051	C3042	C3040, C3043	R3006, R3041	L3014	D3002
DV IN/OUT	OPEN	1000P	○	○	○	○
DV OUT	0Ω	×	×	×	×	×

NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

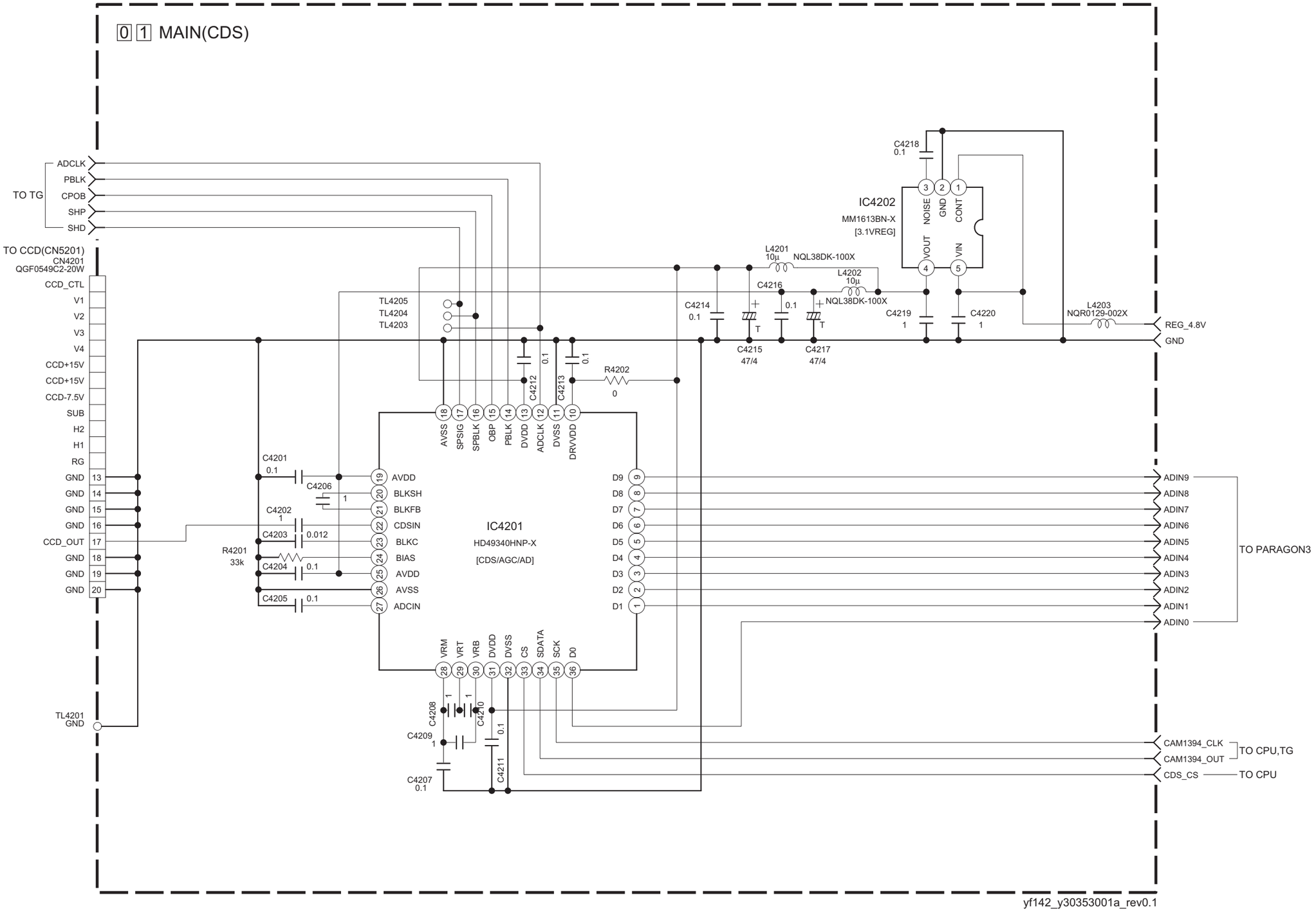
■ MAIN(PRE/REC) SCHEMATIC DIAGRAM



yf142_y20412001a_rev0.1

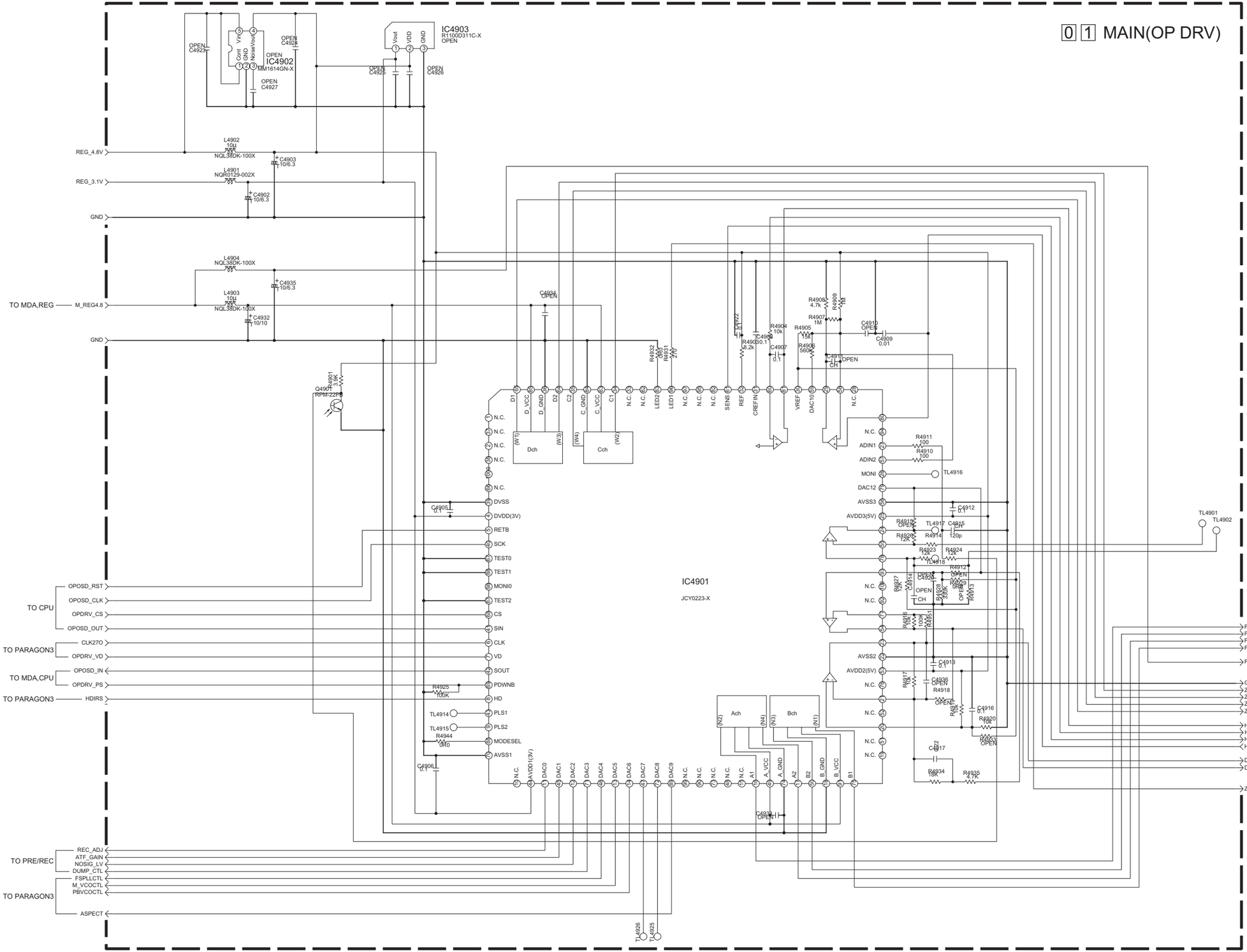
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN(CDS) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

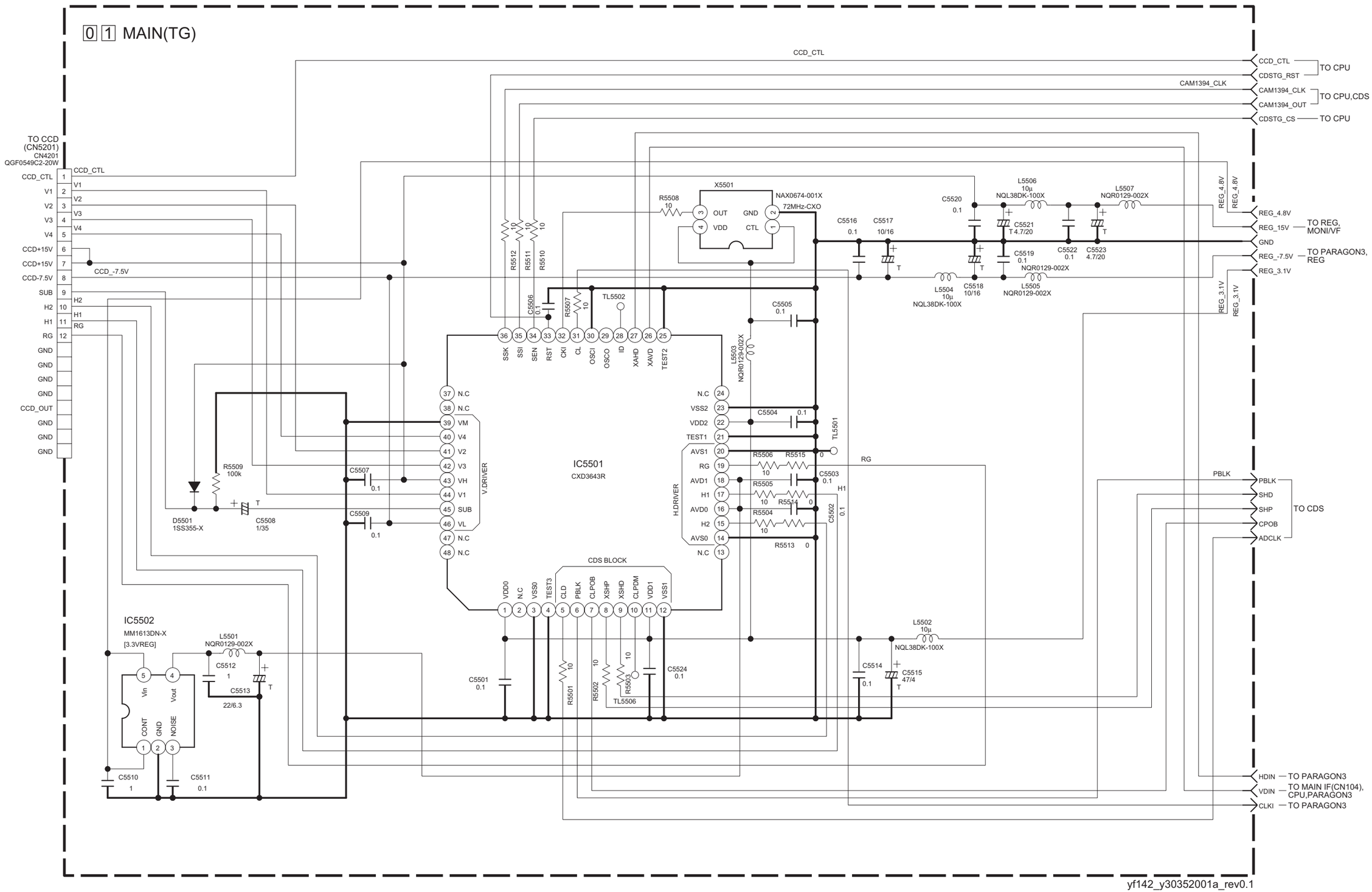
■ MAIN(OP DRV) SCHEMATIC DIAGRAM



yf142_y10638001a_rev0.1

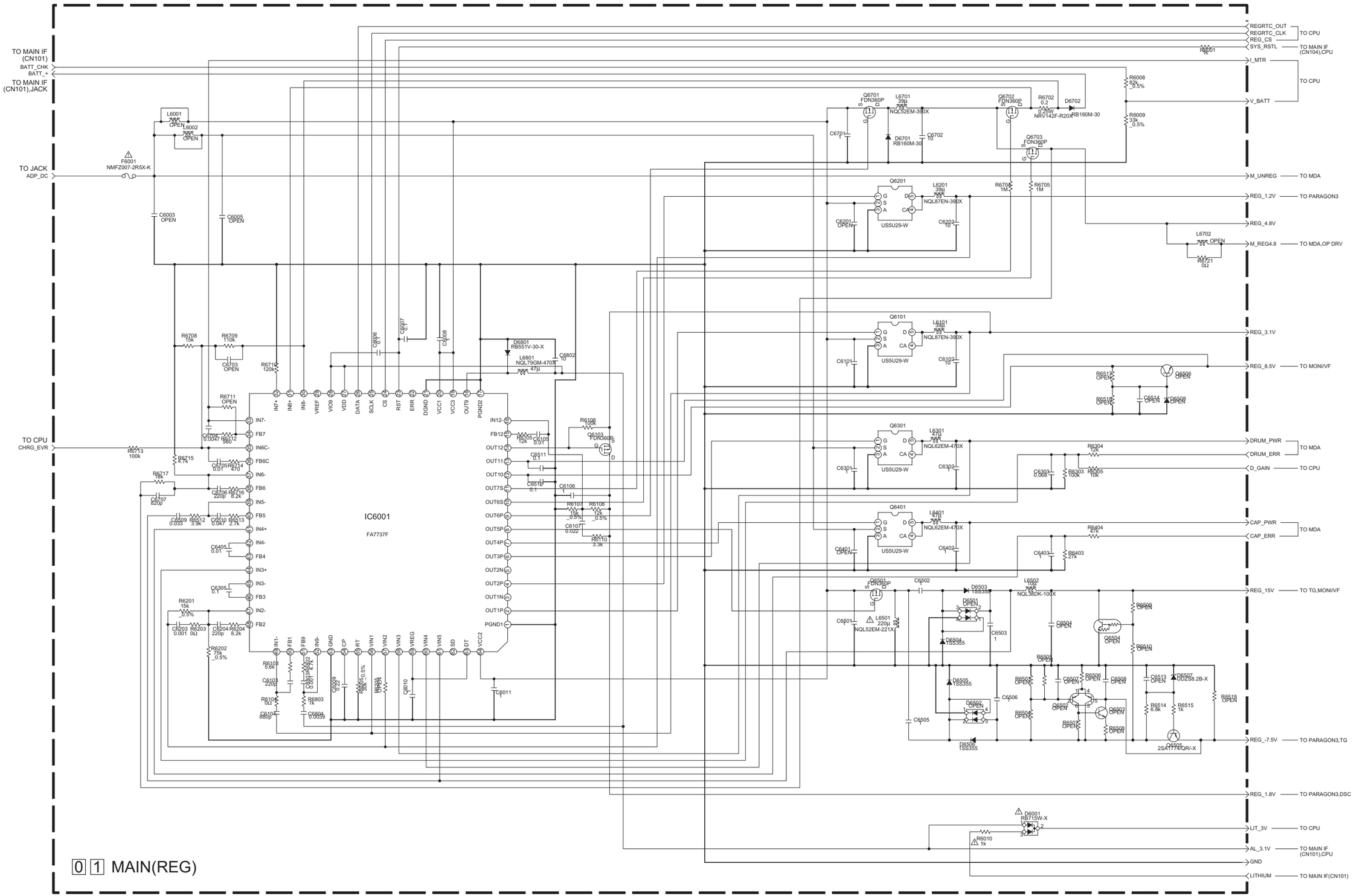
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN(TG) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

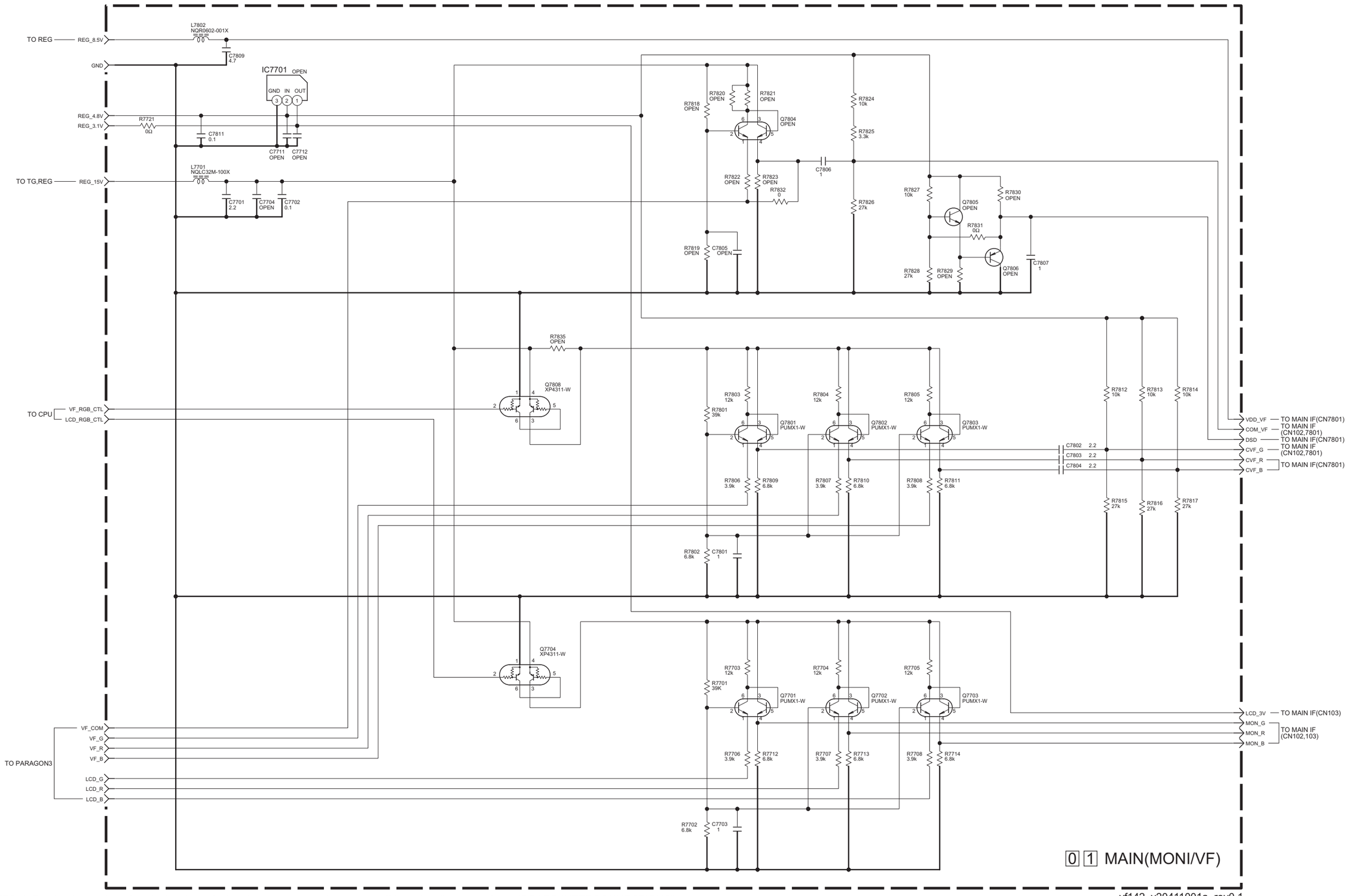
■ MAIN(REG) SCHEMATIC DIAGRAM



yf142_y10636001a_rev0.1

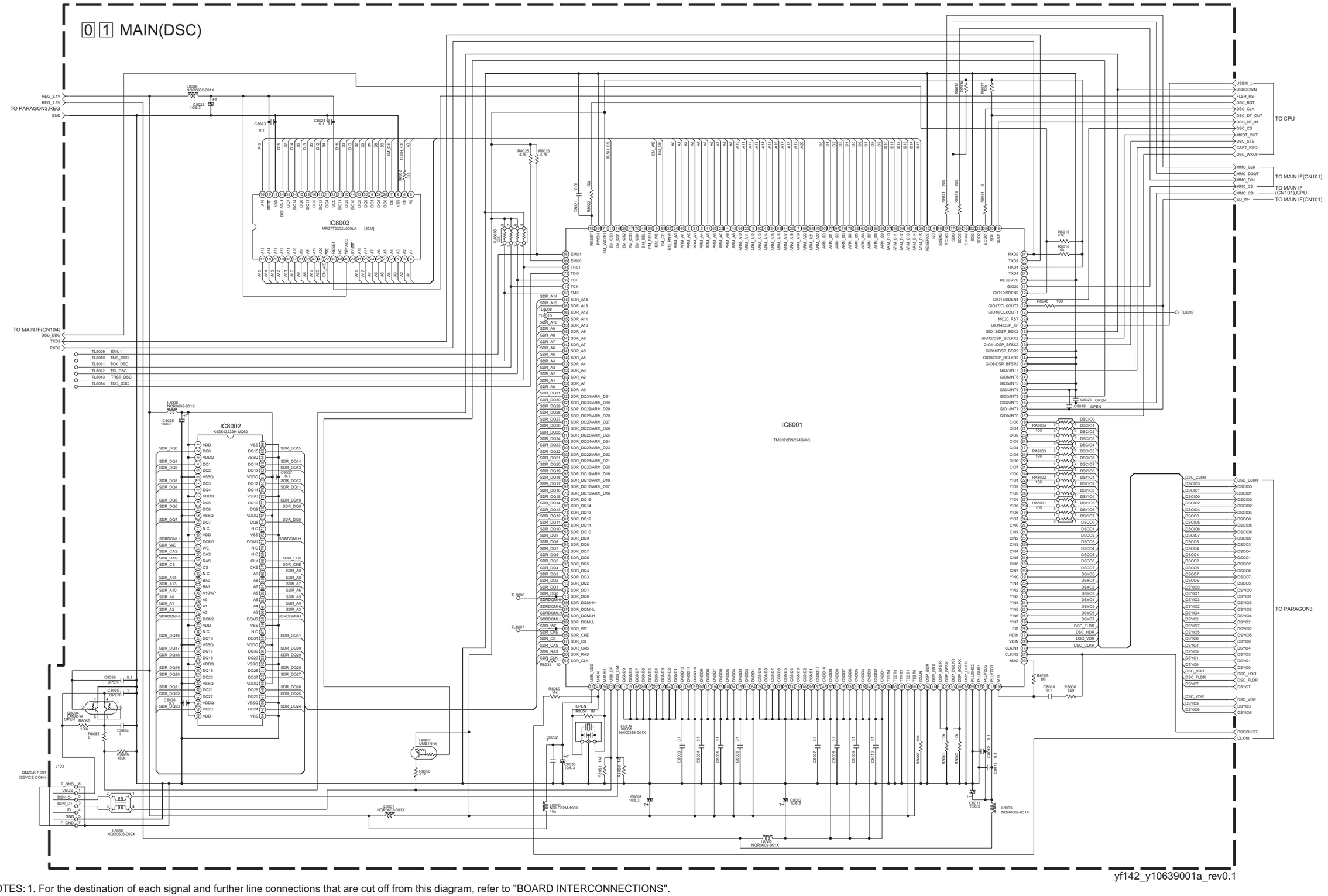
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN(MONI/VF) SCHEMATIC DIAGRAM



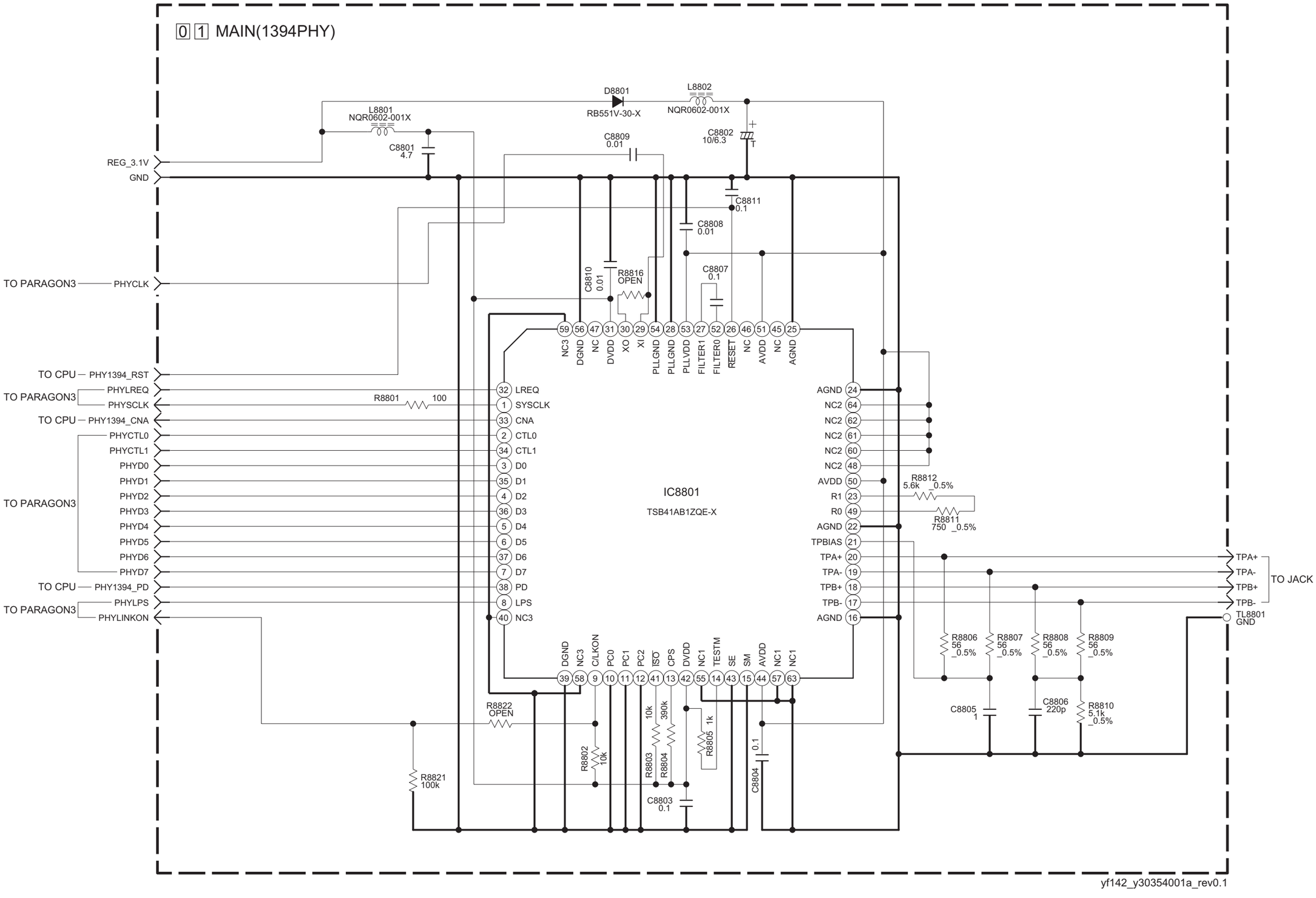
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN(DSC) SCHEMATIC DIAGRAM



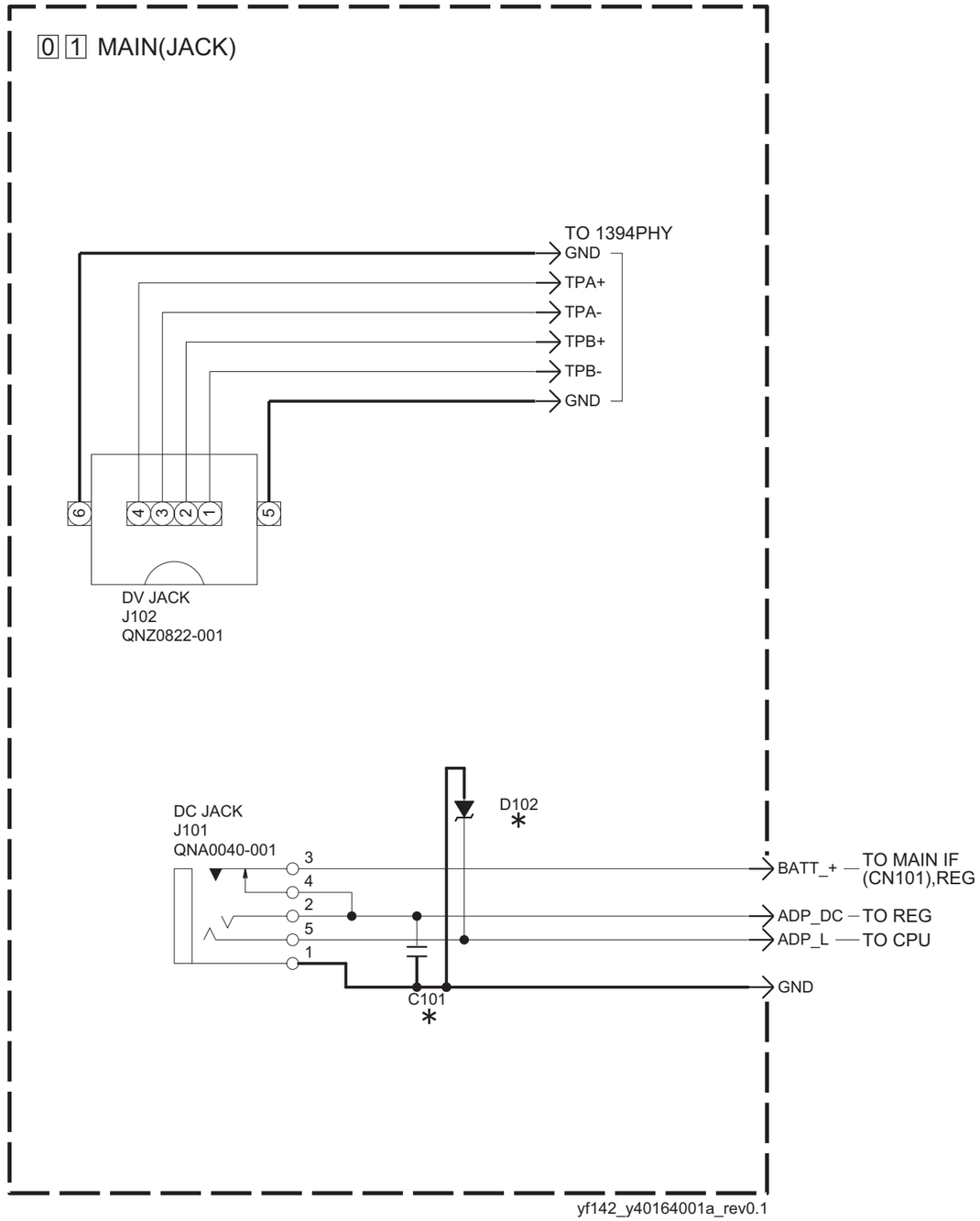
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN(1394PHY) SCHEMATIC DIAGRAM



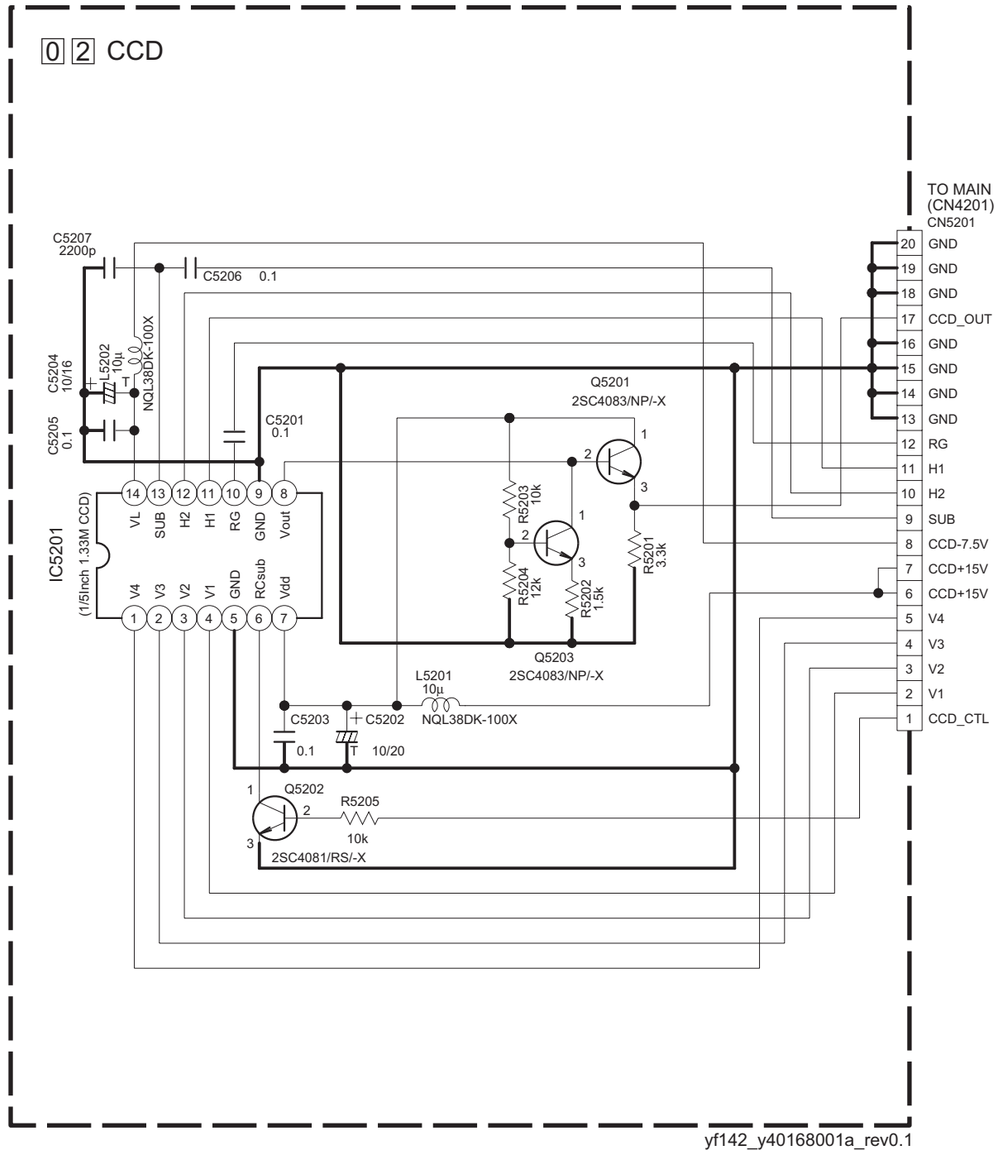
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN(JACK) SCHEMATIC DIAGRAM



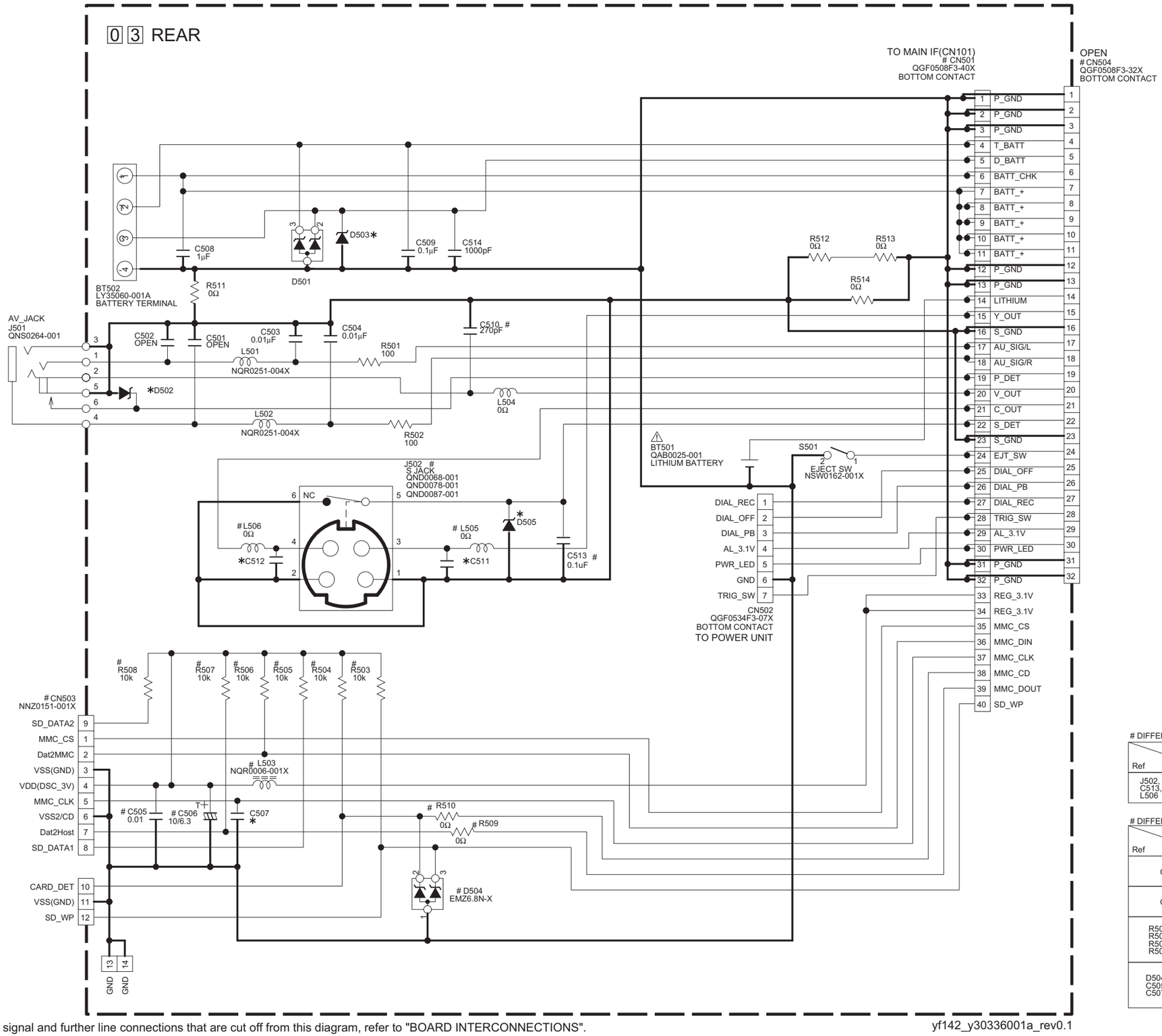
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ CCD SCHEMATIC DIAGRAM



NOTES :1. For the destination of each signal and further line connectionsthat are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.
3. IC5201 is incorporated in the CCD base assembly .
When IC5201 needs replacement, replace the CCD base assembly in whole because it cannot be replaced alone.

■ REAR SCHEMATIC DIAGRAM



DIFFERENCE TABLE 1

Ref \ Dest Key	NTSC	PAL
J502, C510, C513, L505, L506	NO	YES

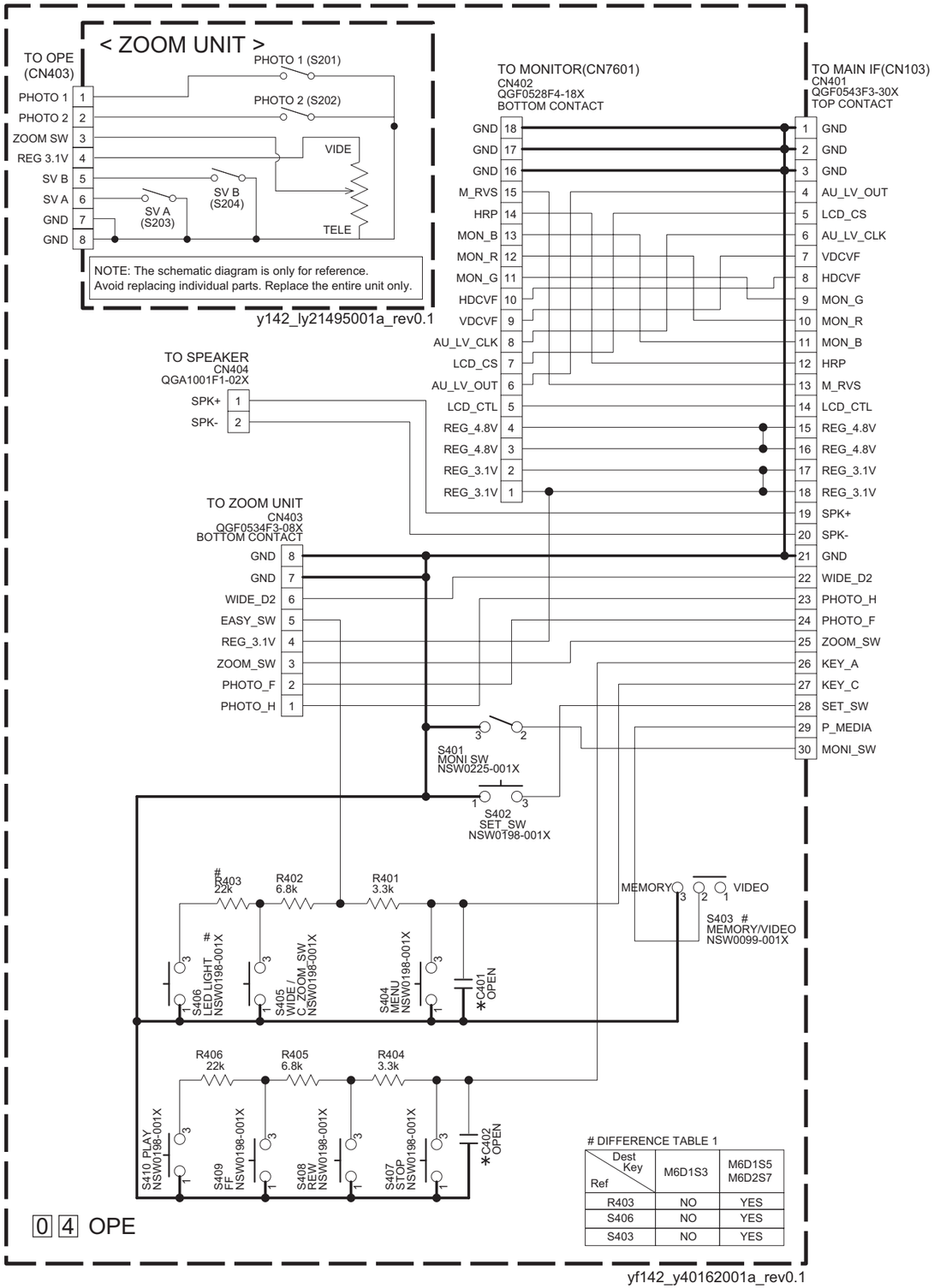
DIFFERENCE TABLE 2

Ref \ Dest Key	M6D1S3	M6D1S5 M6D2S7
CN501	NO	YES
CN504	YES	NO
R503 R504 R505 R506 R507 R508 R509 R510	NO	YES
D504 L503 C505 C506 C507 CN503	NO	YES

yf142_y30336001a_rev0.1

NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ OPE AND ZOOM UNIT SCHEMATIC DIAGRAMS

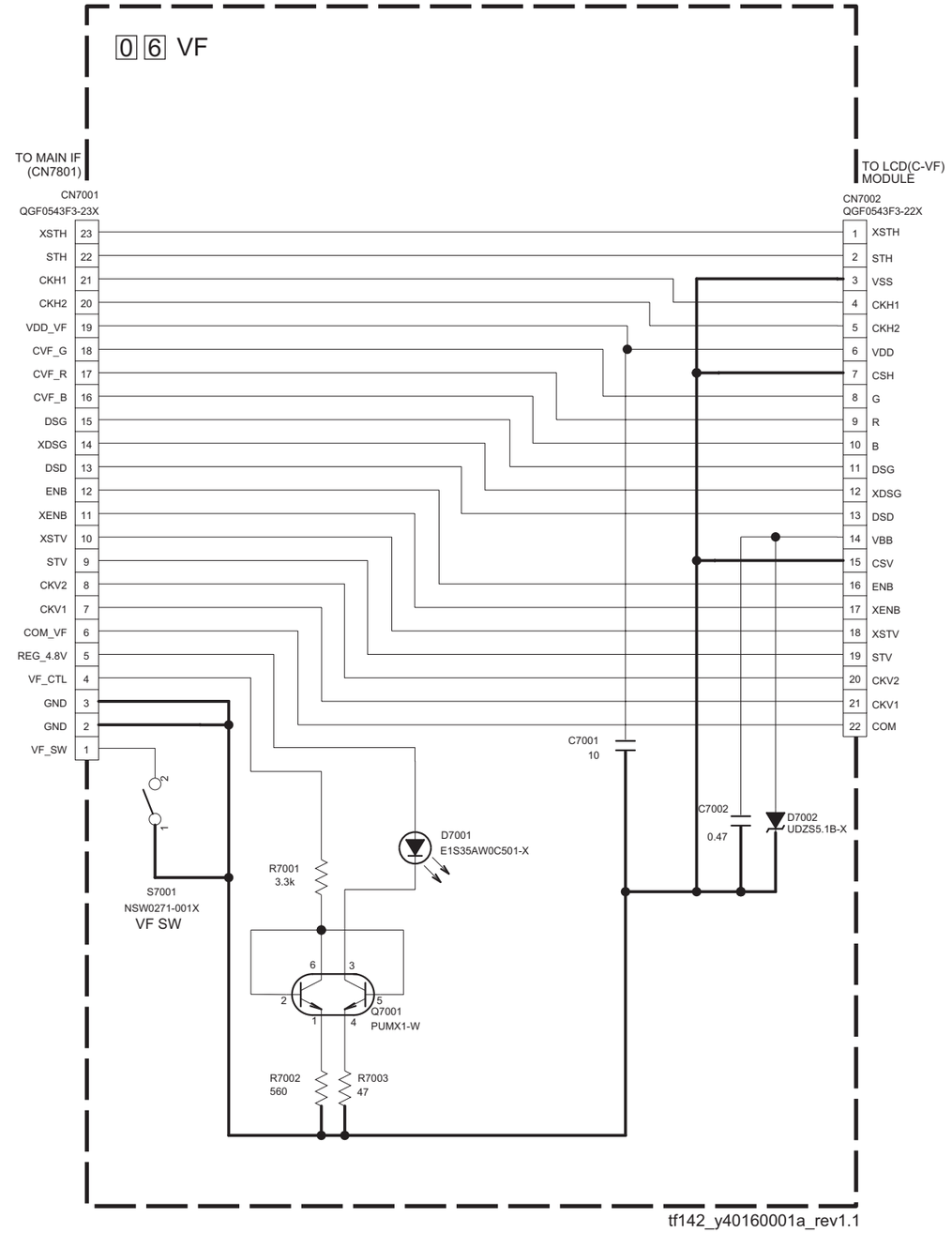


DIFFERENCE TABLE 1

Ref \ Dest Key	M6D1S3	M6D1S5 M6D2S7
R403	NO	YES
S406	NO	YES
S403	NO	YES

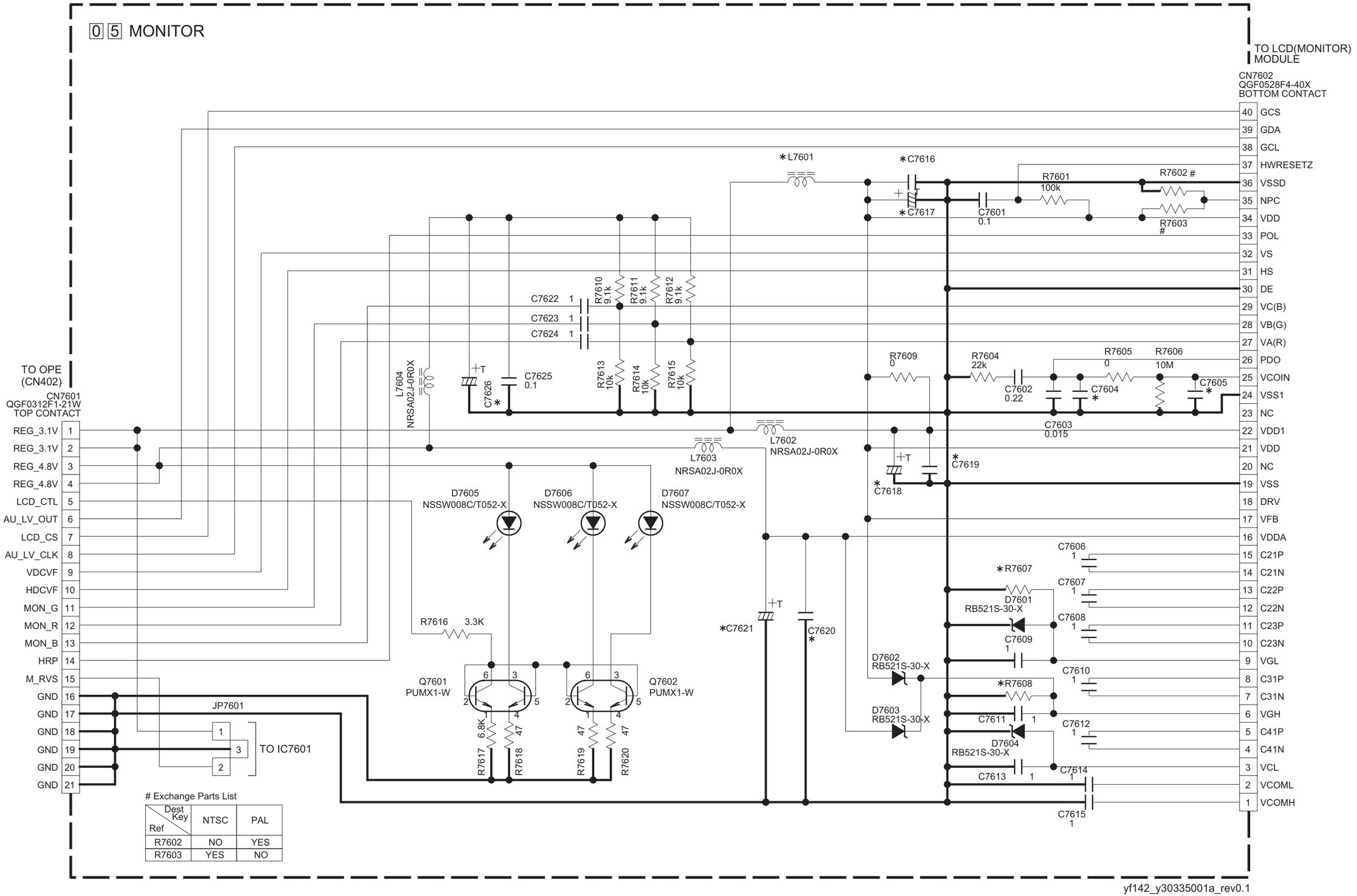
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ VF SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ MONITOR SCHEMATIC DIAGRAM



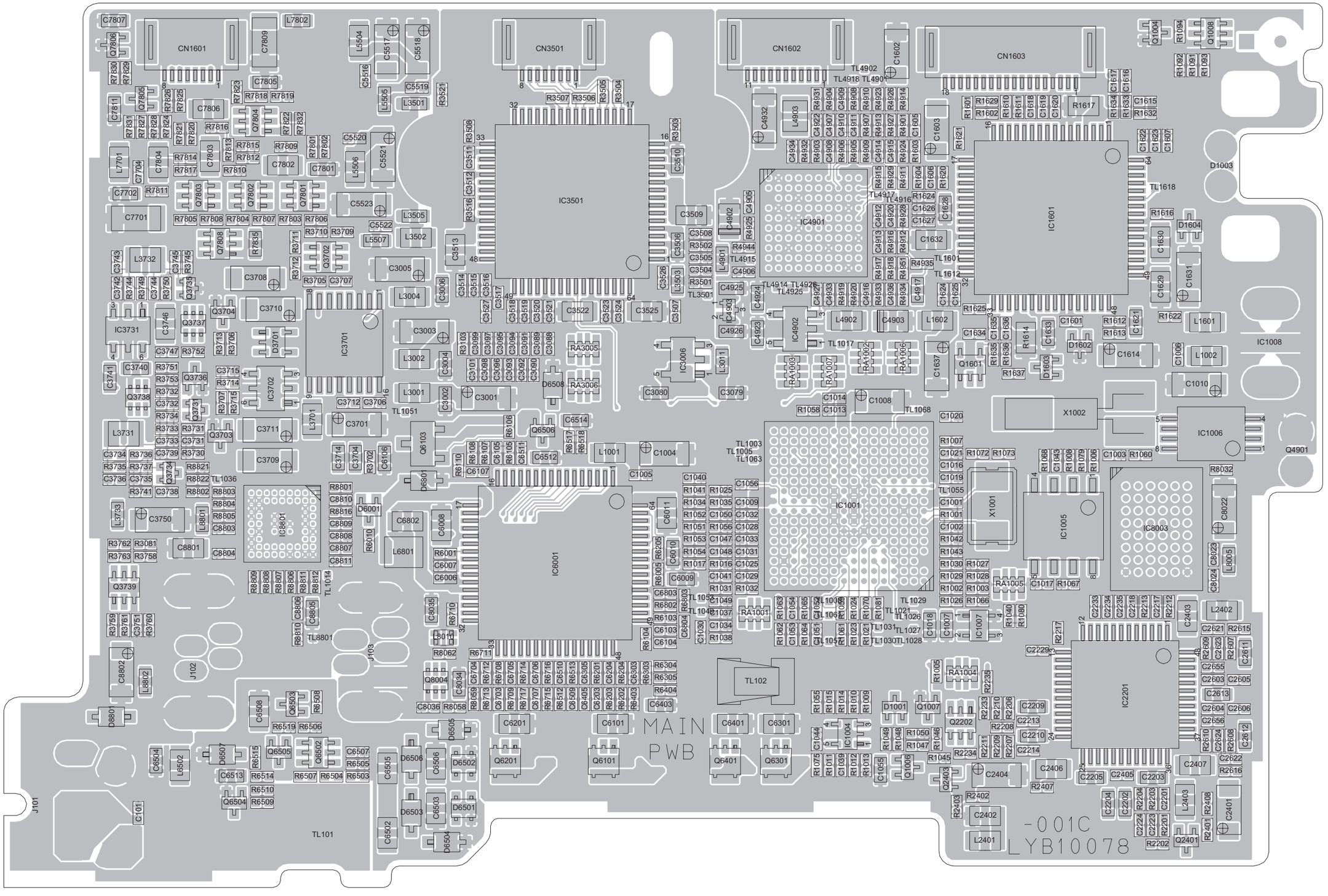
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (∗) is not used.

■ MAIN CIRCUIT BOARD

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

<01>MAIN
LYB10078-001C

FOIL SIDE(B)



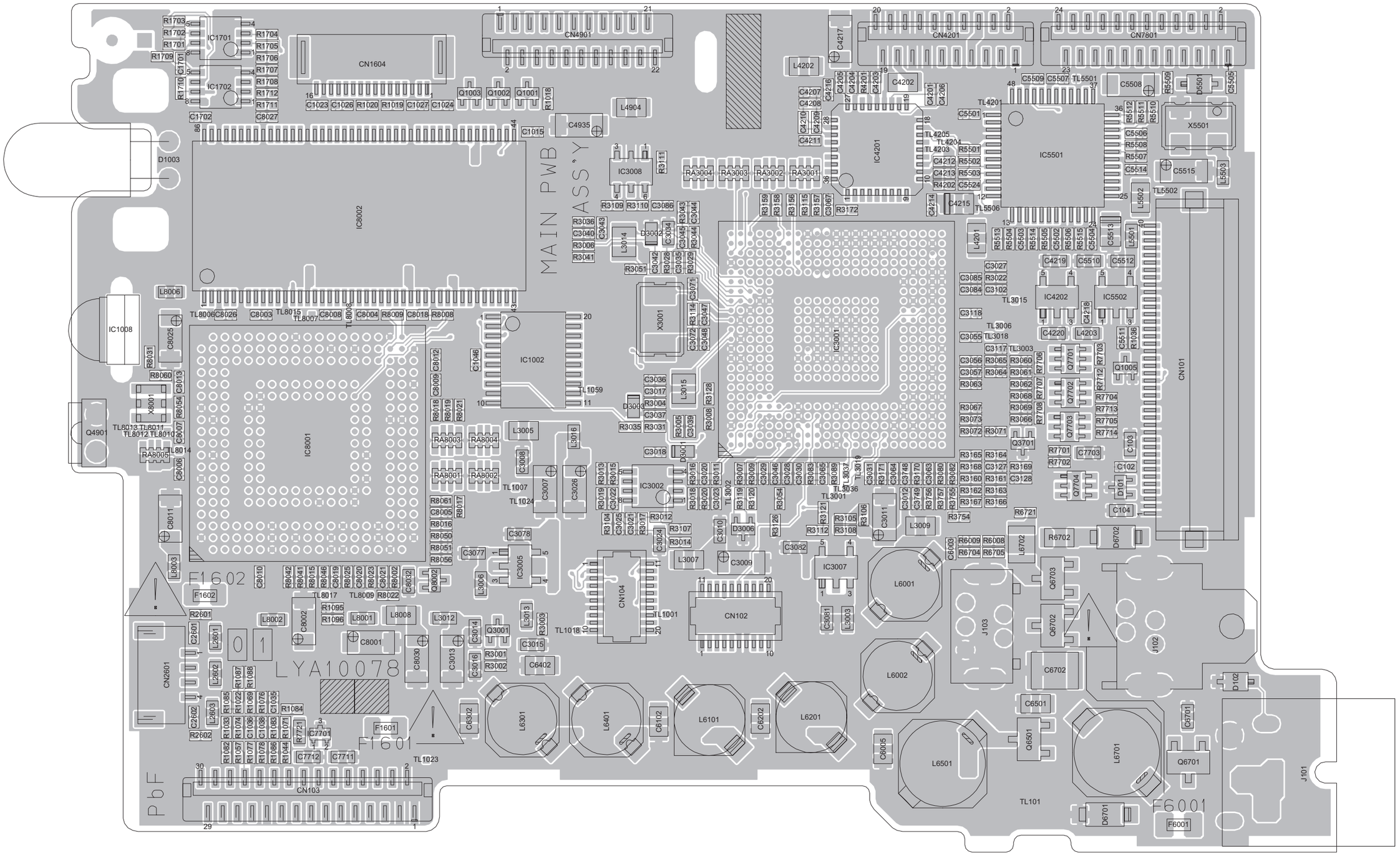
■ MAIN CIRCUIT BOARD

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

<01>MAIN
LYB10078-001C

CAUTION :
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
ATTENTION :
POUR UNE PROTECTION PERMANENTE CONTRE LES RISQUE D'INCENDE,
REMPLACER LES FUSIBLES PAR UNAAUTRE DE MEME TYPE ET DE MEME TENSION.

COMPONENT SIDE(A)

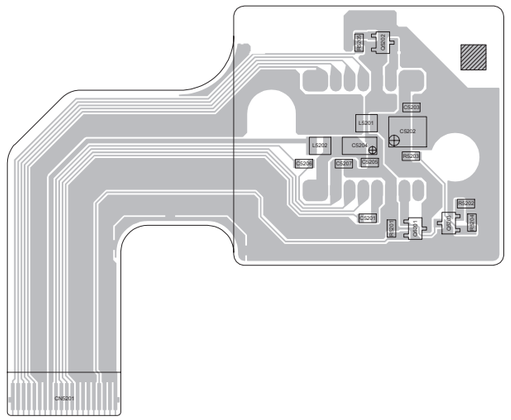


■ CCD, REAR AND OPE CIRCUIT BOARDS

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

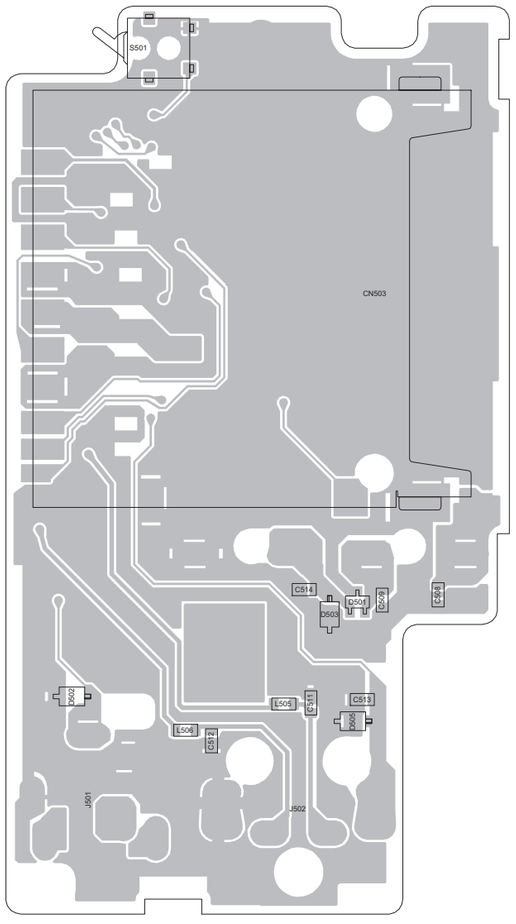
<02>CCD
LYB20031-001A

COMPONENT SIDE(A)

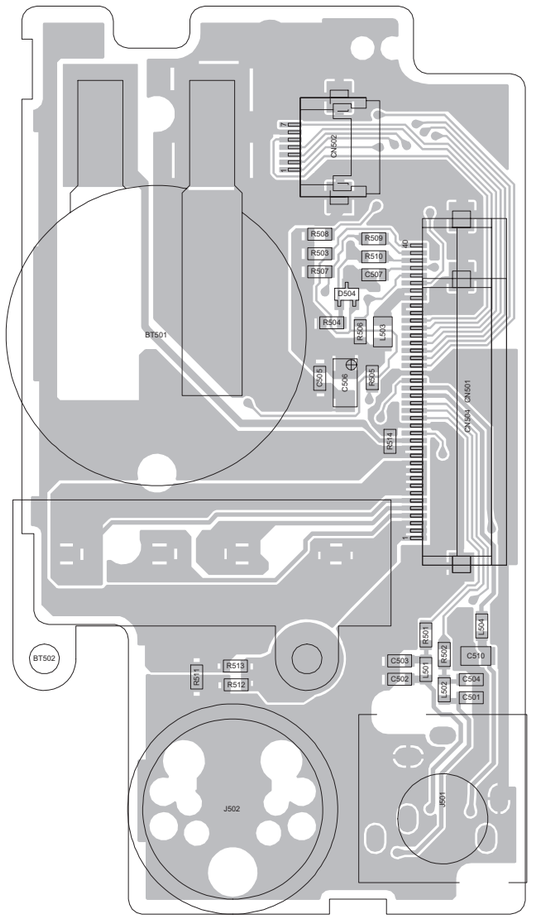


<03>REAR
LYB20024-001C

FOIL SIDE(B)

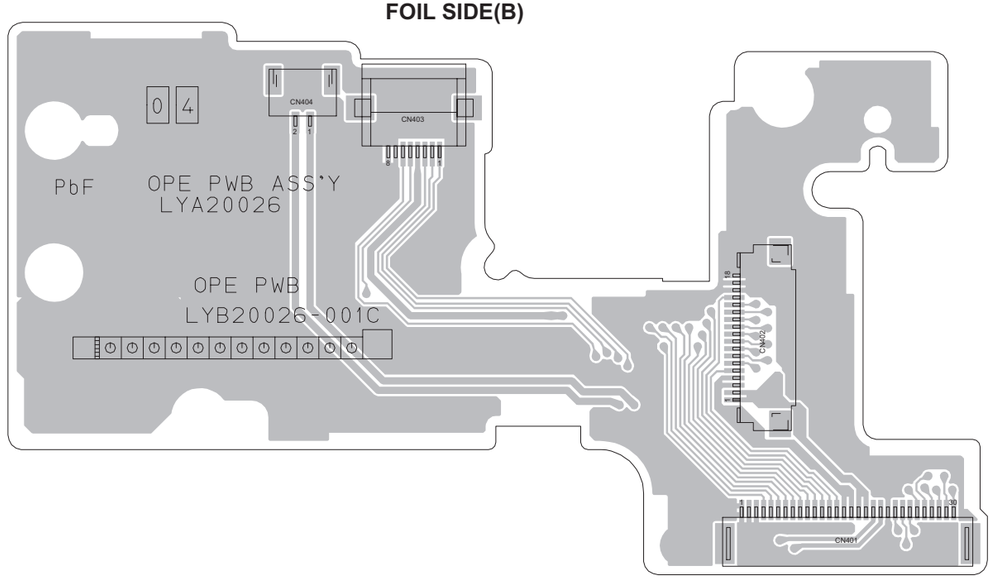


COMPONENT SIDE(A)

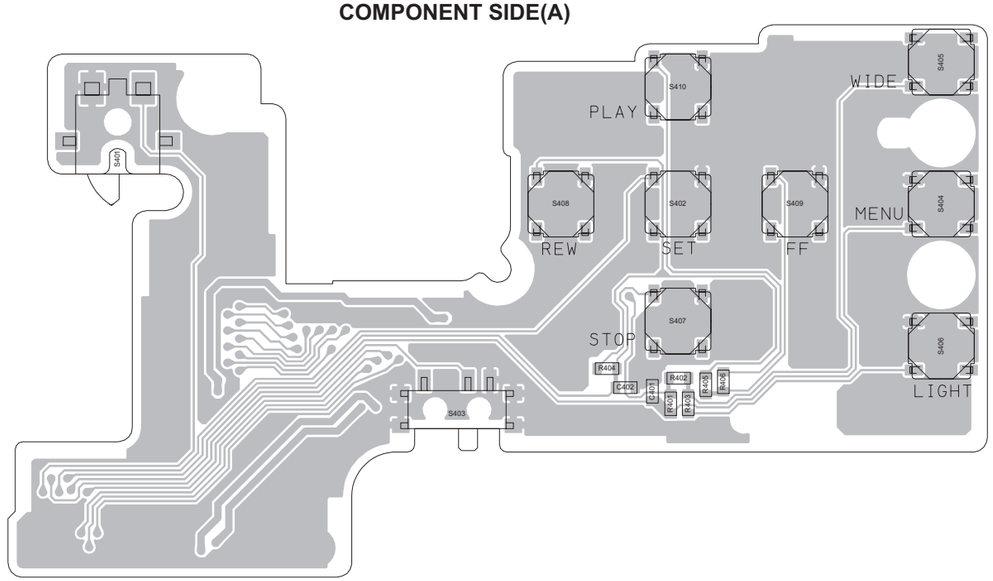


<04>OPE
LYB20026-001C

FOIL SIDE(B)



COMPONENT SIDE(A)

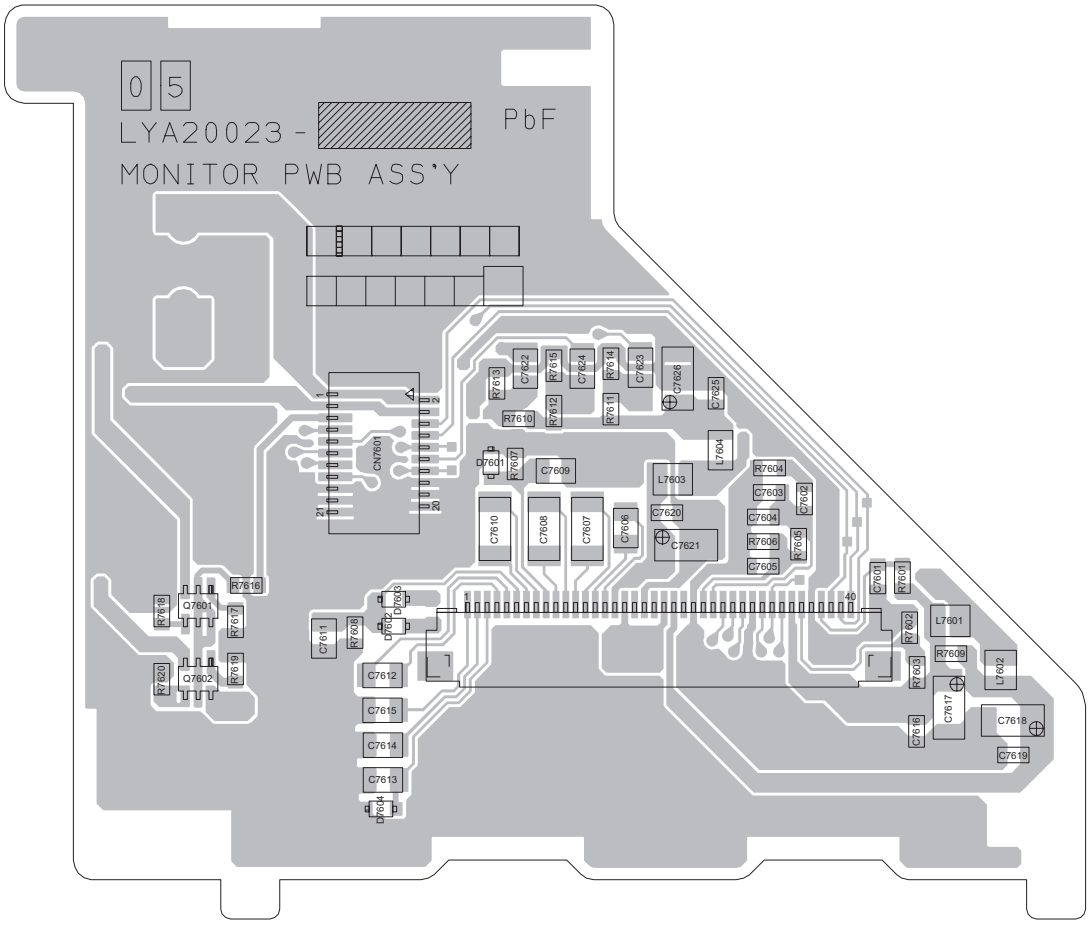


■ MONITOR AND VF CIRCUIT BOARDS

Lead free solder used in the board (material : Sn-Ag-Cu, melting point : 219 Centigrade)

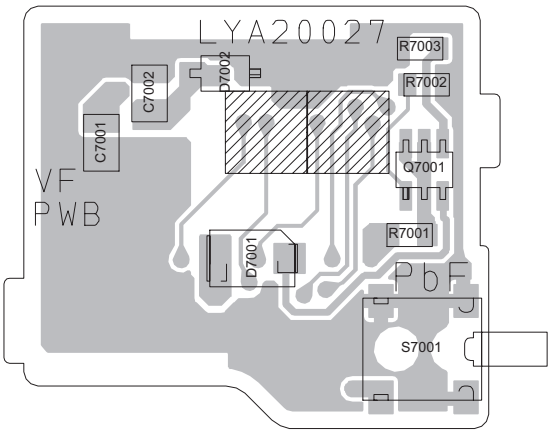
<05>MONITOR
LYB20023-001A

FOIL SIDE(B)

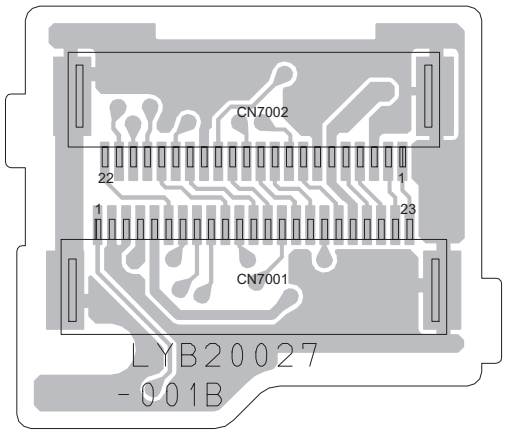


<06>VF
LYB20027-001B

FOIL SIDE(B)



COMPONENT SIDE(A)



■ VOLTAGE CHARTS

<MAIN>

MODE PIN NO.	REC	PLAY
IC1001	-	-
IC1002		
1	2.7	2.8
2	2.5	2.6
3	0.2	0
4	3.0	0
5	3.0	3.0
6	3.1	3.0
7	0	0
8	1.4	1.4
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	2.5	2.6
15	0	0
16	0	0
17	2.5	0
18	0	0
19	2.9	2.8
20	0	0
IC1004		
1	1.4	1.4
2	0	0
3	1.2	1.2
4	0	0
5	0	3.0
IC1005		
1	3.0	3.1
2	0	0
3	3.0	3.0
4	0	0
5	0	0
6	3.0	2.9
7	3.0	3.0
8	3.0	3.1
IC1006		
1	0	0
2	3.0	3.0
3	0	3.0
4	0	0
5	2.9	3.0
6	0.4	0.5
7	0.4	0.3
8	3.0	3.1
IC1007		
1	3.0	3.0
2	3.0	3.1
3	0	0
4	0	0
IC1008		
1	3.0	3.1
2	0	0
3	3.0	3.1
IC1601		
1	0	0
2	0.6	0.6
3	0.4	0.5
4	0	0
5	0.6	0.2
6	0	0
7	0	0
8	1.5	0
9	1.5	1.4
10	1.5	1.5
11	1.5	0
12	1.5	0
13	1.4	1.5
14	2.8	0
15	1.1	0
16	1.4	1.5
17	1.5	1.5
18	1.5	1.5
19	1.5	1.5
20	1.5	1.5
21	3.0	3.0
22	0.6	0.7
23	0.4	0.2
24	1.4	1.4
25	1.4	1.4
26	11.0	11.0
27	0	0
28	2.7	2.6
29	0.7	0.7
30	0	1.3
31	0	0.7
32	0.9	0.9
33	1.2	1.2
34	1.2	1.2
35	1.2	1.2
36	0	0
37	1.2	1.2
38	0	0
39	1.5	1.5
40	0	0
41	0	0
42	0	0
43	0	0
44	0	0
45	4.8	0
46	1.5	1.5
47	1.5	1.5
48	1.5	1.5
49	1.5	1.5
50	0	0
51	13.9	14.1
52	2.3	2.3
53	10.3	12.5
54	0	0
55	0	0
56	0	0
57	0	3.0
58	3.1	2.9
59	1.5	0
60	0	1.3
61	0	0.4
62	0	1.6
63	0	0.7
64	0	0.9
IC1701		
1	3.6	0
2	1.4	1.4
3	1.4	0
4	0	0
5	1.4	1.5
6	1.4	1.5
7	-	-
8	4.8	4.8
IC1702		
1	0	0
2	1.5	0.1
3	0	-
4	0	0
5	-	-
6	1.4	1.4
7	-	-
8	4.7	4.8
IC2201		
1	0	1.6
2	0	0
3	0	1.5
4	3.0	3.1
5	3.1	3.1
6	0	0
7	1.5	1.4
8	1.4	1.3
9	1.5	0
10	0.9	0.6
11	1.4	1.4
12	2.5	2.5
13	1.4	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	3.1	3.1
20	0	0
21	0.5	0.5
22	1.5	1.5
23	0.5	0.5
24	0	1.5
25	0	0
26	0	0
27	4.8	4.8
28	0	0
29	2.3	2.4
30	0	0
31	3.1	3.1
32	1.5	1.5
33	0.4	1.5
34	0.3	0
35	0	1.5
36	1.5	1.5
37	1.5	1.5
38	1.5	1.5
39	1.5	0
40	1.5	0
41	0	0
42	4.8	4.8
43	3.3	0
44	4.7	4.8
45	1.5	0
46	1.5	0
47	1.5	1.5
48	1.5	1.5
IC3001	-	-
IC3006		
1	3.1	3.1
2	0	0
3	3.0	3.0
4	0	0
5	2.4	2.5
IC3501		
1	0	0
2	0.5	0.5
3	0	0
4	0	1.6
5	2.5	2.5
6	2.1	1.3
7	1.4	0
8	0	0
9	0.6	3.0
10	1.4	1.4
11	3.0	3.1
12	0	0
13	4.8	4.7
14	0	0
15	0	0
16	0	0
17	0	0
18	3.7	1.6
19	3.4	1.6
20	3.4	1.6
21	3.7	1.6
22	0	0
23	3.7	1.6
24	3.4	1.6
25	3.4	1.6
26	3.7	1.6
27	0	0
28	1.3	1.4
29	3.4	1.7
30	3.4	1.6
31	1.3	1.3
32	0	0
33	0	0
34	0	0
35	1.7	1.7
36	0.4	0.4
37	3.0	3.0
38	0	3.0
39	3.1	3.1
40	1.5	1.5
41	0	3.1
42	3.0	0
43	4.8	4.6
44	3.0	0
45	0.1	0
46	0	2.0
47	0.4	2.0
48	4.3	3.1
49	4.3	2.8
50	0.5	1.5
51	1.2	1.2
52	0.9	1.5
53	0	0
54	3.2	2.5
55	2.5	1.9
56	1.0	1.0
57	2.5	1.9
58	2.5	1.3
59	0	0
60	1.2	1.1
61	3.1	1.9
62	2.5	1.9
63	2.5	1.3
64	2.5	1.9
IC3701		
1	0.1	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	4.8	4.8
10	0	0
11	0	0
12	0	0
13	0	0
14	2.5	0
15	4.8	4.8
16	0	0
IC3731	-	-
IC4201		
1	1.2	0
2	1.1	0
3	0.8	3.1
4	2.3	0
5	1.9	3.1
6	0.8	0
7	0	0
8	0	0
9	0	0
10	3.0	3.0
11	0	0
12	0	0
13	0	0
14	0	0
15	2.9	0
16	2.4	0
17	2.4	0
18	0	0
19	3.0	3.1
20	1.8	0.1
21	0	0
22	0	2.1
23	1.9	0
24	0	0
25	0	3.1
26	0	0
27	0	0
28	1.4	0
29	1.9	0
30	0.8	0
31	3.0	3.0
32	0	0
33	3.0	2.9
34	0	0
35	3.0	3.0
36	1.3	0
IC4202		
1	4.8	4.8
2	0	0
3	1.2	0
4	3.0	3.0
5	4.8	4.8
IC4901	-	-
IC5501		
1	3.0	3.0
2	0	0
3	0	0
4	0	0
5	1.3	0
6	2.6	0
7	3.0	0
8	2.3	0
9	2.4	0
10	3.0	0
11	3.0	3.1
12	0	0
13	0	0
14	0	0
15	1.5	0
16	3.2	3.2
17	1.5	0
18	3.2	3.2
19	0.7	0
20	0	0
21	0	0
22	3.0	3.0
23	0	0
24	0	0
25	0	0
26	2.9	2.9
27	2.7	2.7
28	0	0
29	3.0	3.0
30	0	0
31	1.5	1.4
32	1.4	1.4
33	3.0	3.0
34	2.9	3.0
35	0	0.1
36	3.0	3.0
37	0	3.0
38	0	0
39	0	0
40	-7.1	0
41	-0.3	0
42	-0.3	0
43	15.0	15.0
44	-7.1	0
45	-7.6	-7.6
46	-7.6	-7.6
47	0	0
48	0	0
IC5502		
1	4.8	4.8
2	0	0
3	1.2	1.2
4	3.2	3.2
5	4.8	4.8
IC6001		
1	0	0
2	7.9	7.9
3	0	0
4	9.7	9.8
5	0	0
6	8.7	8.7
7	9.6	9.6
8	7.5	7.6
9	6.1	6.2
10	0	0
11	10.8	10.8
12	11.7	11.7
13	8.5	8.5
14	1.1	1.1
15	0.7	0.7
16	1.0	1.0
17	0	0
18	3.3	3.3
19	11.0	11.0
20	11.0	11.0
21	0	0
22	0	0
23	3.0	3.0
24	3.0	3.0
25	3.0	3.1
26	3.0	3.0
27	3.1	0
28	3.0	3.1
29	1.0	1.0
30	0	0
31	0	0
32	0	0
33	0	0
34	2.6	0
35	0	0
36	0	0
37	1.0	1.0
38	1.0	0
39	1.0	0.1
40	0.8	0.7
41	0	0
42	0	0.1
43	0.6	0.6
44	0.2	0.3
45	0.1	0.2
46	0.7	0
47	1.0	1.0
48	0.6	0
49	1.0	1.0
50	0.8	0.8
51	0.8	0.8
52	1.0	1.0
53	0	0
54	0	0
55	0	1.0
56	3.1	3.1
57	0	0
58	2.6	2.6
59	2.7	2.7
60	1.3	1.3
61	15.1	15.1
62	10.8	10.8
63	2.5	2.7
64	11.0	11.0
IC8001	-	-
IC8002		
1	0	3.0
2	0	0
3	3.0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	3.0	3.0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	3.0
16	0	0
17	3.0	3.0
18	3.1	3.0
19	3.0	3.0
20	3.1	3.0
21	0	0
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	3.0	3.0
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	3.0	3.1
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	3.0	3.0
42	0	0.1
43	3.0	3.1
44	0	0
45	0	0
46	0	0
47	0	0
48	0	0
49	3.0	3.0
50	0	0
51	0	0
52	0	0
53	0	0
54	0	0
55	3.0	3.0
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	0
65	0	0
66	0	0
67	0	0
68	0	0
69	0	0
70	0	0
71	0	0
72	0	0
73	0	0
74	0	0
75	3.0	3.0
76	0	0
77	0	0
78	0	0
79	0	0
80	0	0
81	3.0	3.1
82	0	0
83	0	0
84	0	0
85	0	0
86	0	0
IC8003	-	-
IC8801	-	-
Q1001		
E	3.0	3.0
C	3.0	0
B	3.0	3.0
Q1002		
E	3.0	3.0
C	2.9	2.9
B	0	0
Q1003		
E	3.0	3.0
C	0	-0.1
B	3.0	3.0
Q1004		
E	0	0
C	1.1	1.2
B	0	0
Q1005		
E	0	0
C	0	0
B	2.8	3.0
Q1006		
E	0	0
C	3.0	3.1
B	0.5	0.5
Q1007		
E	0	0
C	0	0
B	3.0	0
Q1008		
1	1.1	1.1
2	1.5	1.5
3	0	0
4	1.5	1.3
5	0.8	0.8
6	2.6	2.6
Q1601		
1	0	0
2	0	0
3	4.8	0
4	0	0
5	4.8	4.8
Q2403		
E	3.0	3.1
C	0	4.8
B	0	0
Q3702		
1	0	0
2	0	0
3	0	0
4	0	4.8
5	0	4.4
6	4.4	0
Q3703	-	-
Q3704	-	-
Q3731	-	-
Q3734	-	-
Q3735	-	-
Q3736	-	-
Q3737	-	-
Q3738	-	-
Q3739	-	-
Q4901		
E	0	0
C	0	0
B	4.7	4.6
Q6101		
1	7.9	7.9
2	11.0	11.0
3	0	0
4	0	3.0
5	3.0	2.9
Q6103		
S	1.1	1.1
D	3.0	3.1
G	1.8	1.8
Q6201		
1	9.6	9.8
2	11.1	11.0
3	0	0
4	0	1.1
5	0	1.0
Q6301		
1	8.6	8.8
2	11.0	11.0
3	0	0
4	0	2.6
5	2.6	2.5
Q6401		
1	9.6	9.6
2	0	11.0
3	0	0
4	1.3	1.2
5	1.2	1.3
Q6501		
S	7.6	7.6
D	11.0	11.0
G	0	0
Q6505		
E	-7.4	-7.8
C	-15.4	-15.4
B	-8.1	-8.1
Q6701		
S	0	6.1
D	11.0	11.0
G	4.8	4.8
Q6702		
S	9.8	9.8
D	4.8	4.7
G	0	0
Q6703		
S	0	0
D	4.8	4.8
G	4.8	4.8
Q7701		
1	1.5	1.6
2	2.1	2.2
3	14.9	15.0
4	12.1	12.1
5	12.7	12.6
6	0	12.7
Q7702		
1	1.7	1.6
2	2.1	2.2
3	15.0	14.9
4	12.1	12.1
5	12.7	12.7
6	12.6	12.7
Q7703		
1	1.6	1.6
2	2.2	2.1
3	14.9	15.0
4	12.1	12.1
5	12.7	12.7
6	12.7	12.7
Q7704		
1	0	0
2	3.0	3.0
3	15.0	15.0
4	0	15.0
5	0	0
6	0	0
Q7801		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
Q7802		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
Q7803		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
Q7808		
1	0	0
2	0	0
3	0	0
4	0	15.1
5	15.1	0
6	15.1	0
Q8002		
E	3.0	3.0
C	0	0
B	3.0	0

<CCD>

MODE PIN NO.	REC	PLAY
IC5201		
1	0	0
2	0	0
3	0	0
4	-7.0	0
5	0	0
6	0	9.5
7	0	15.1
8	0	11.4
9	0	0
10	13.3	12.2
11	1.2	0
12	1.2	0
13	9.3	0
14	0	0
Q5201		
E	11.2	10.5
C	15.0	0
B	0	0
Q5202		
E	0	0
C	9.8	0
B	0	0
Q5203		
E	7.1	7.1
C	0	0
B	7.8	0

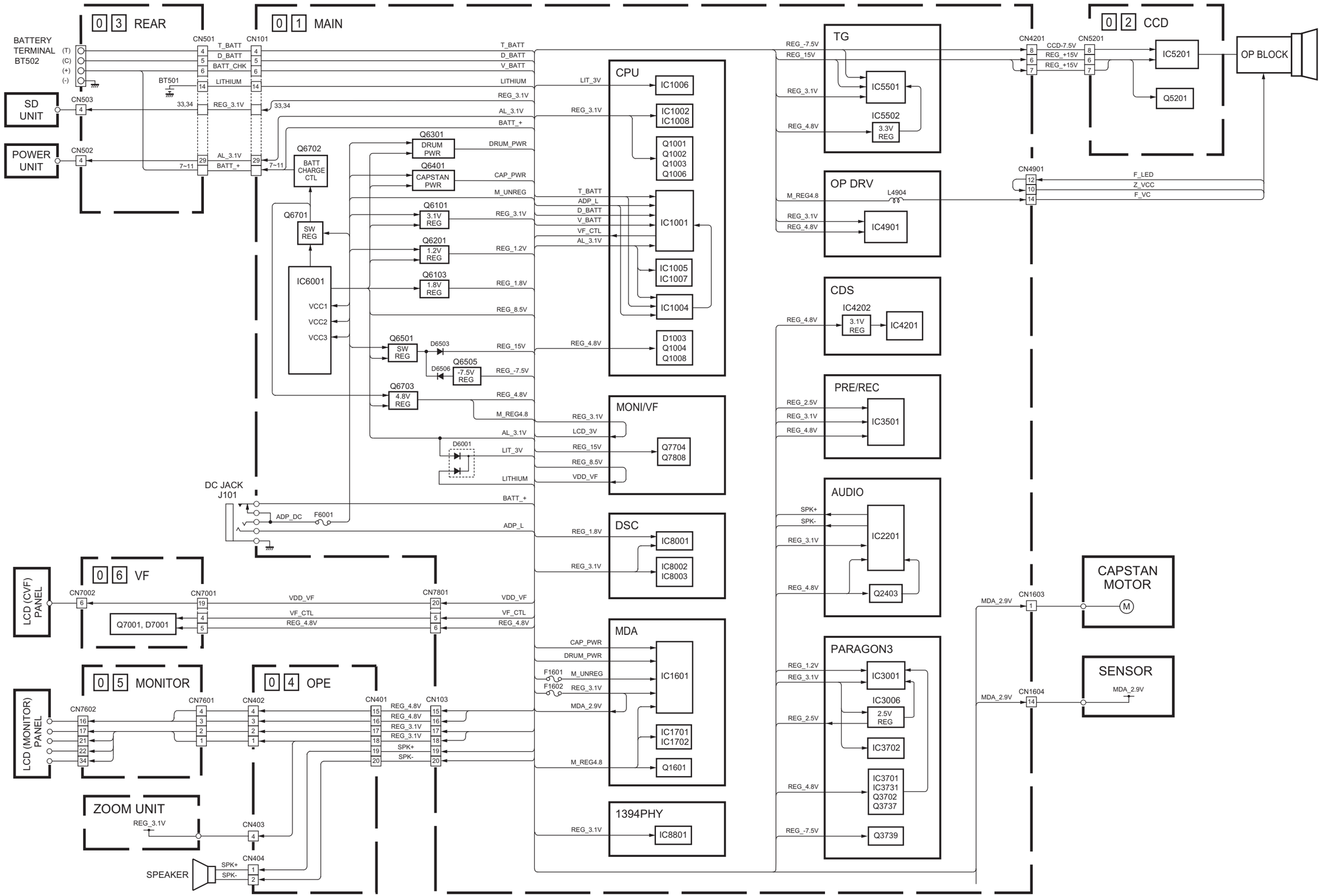
<MONITOR>

MODE PIN NO.	REC	PLAY
IC7601		
1	3.0	3.0
2	3.0	0
3	0	0
Q7601		
1	1.1	1.1
2	1.7	1.7
3	1.7	1.7
4	1.0	1.0
5	0	1.7
6	0	1.7
Q7602		
1	1.0	1.0
2	1.6	1.7
3	1.6	1.6
4	1.0	1.0
5	0	0
6	0	1.6

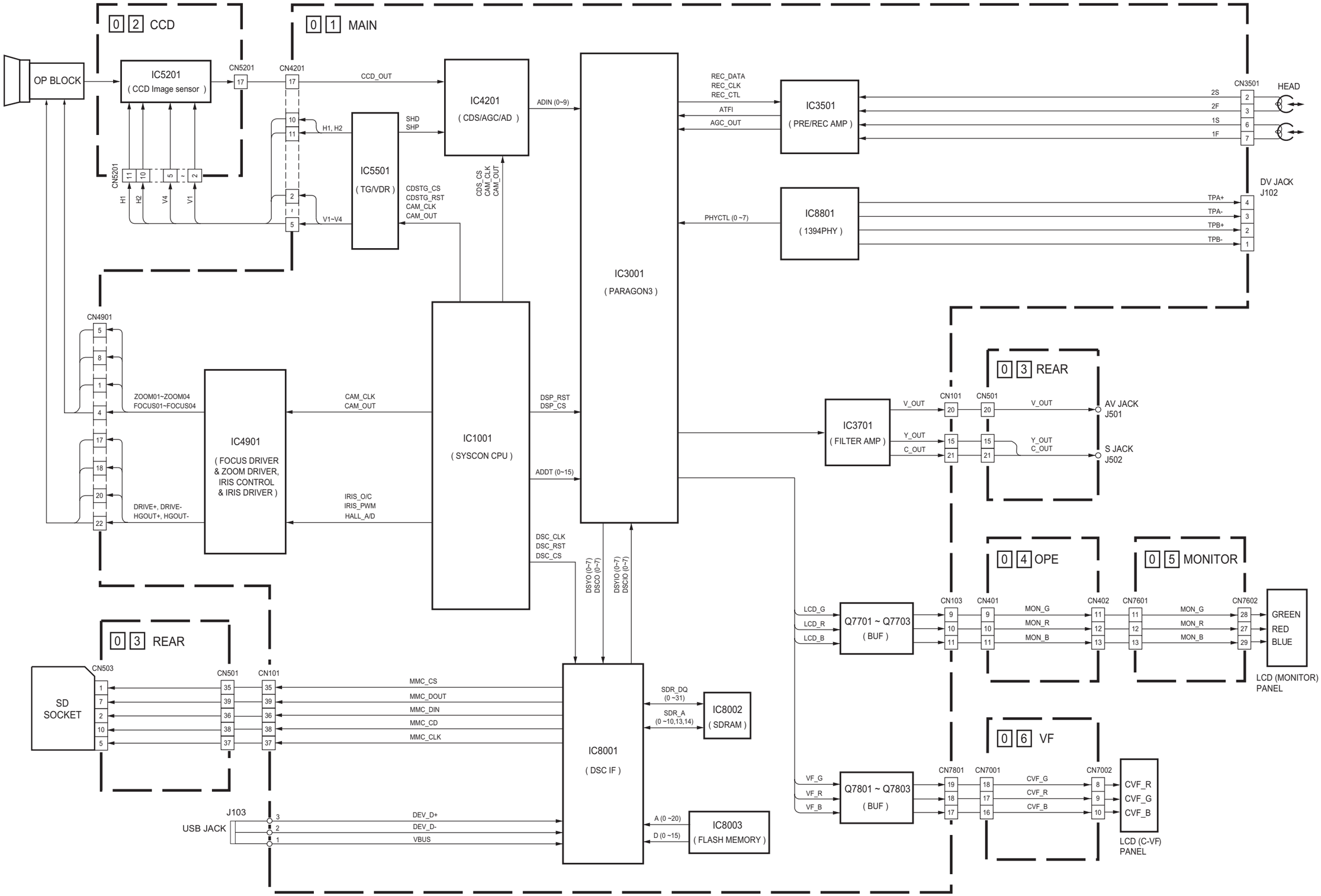
<VF>

MODE PIN NO.	DC
Q7001	-

■ POWER SYSTEM BLOCK DIAGRAM



■ VIDEO SYSTEM BLOCK DIAGRAM



JVC
Victor Company of Japan, Limited
Camcorder Category 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YF142)

Printed in Japan
VPT

PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

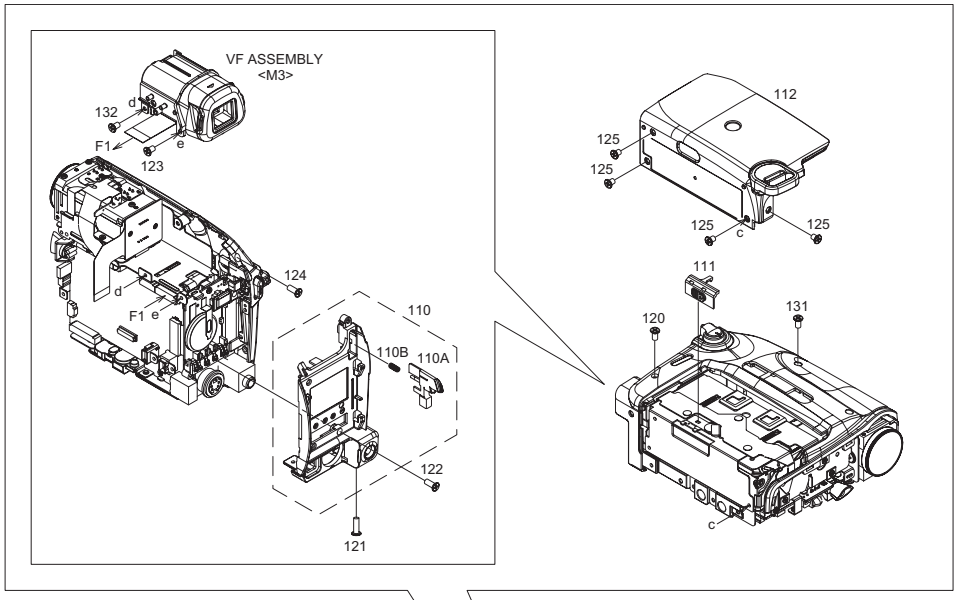
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

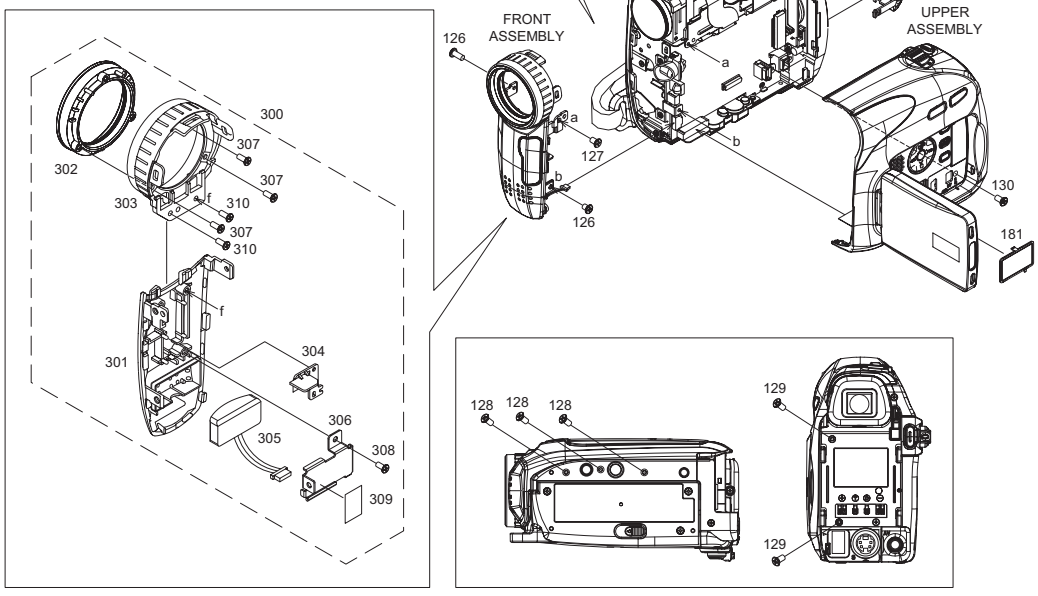
1. EXPLODED VIEW

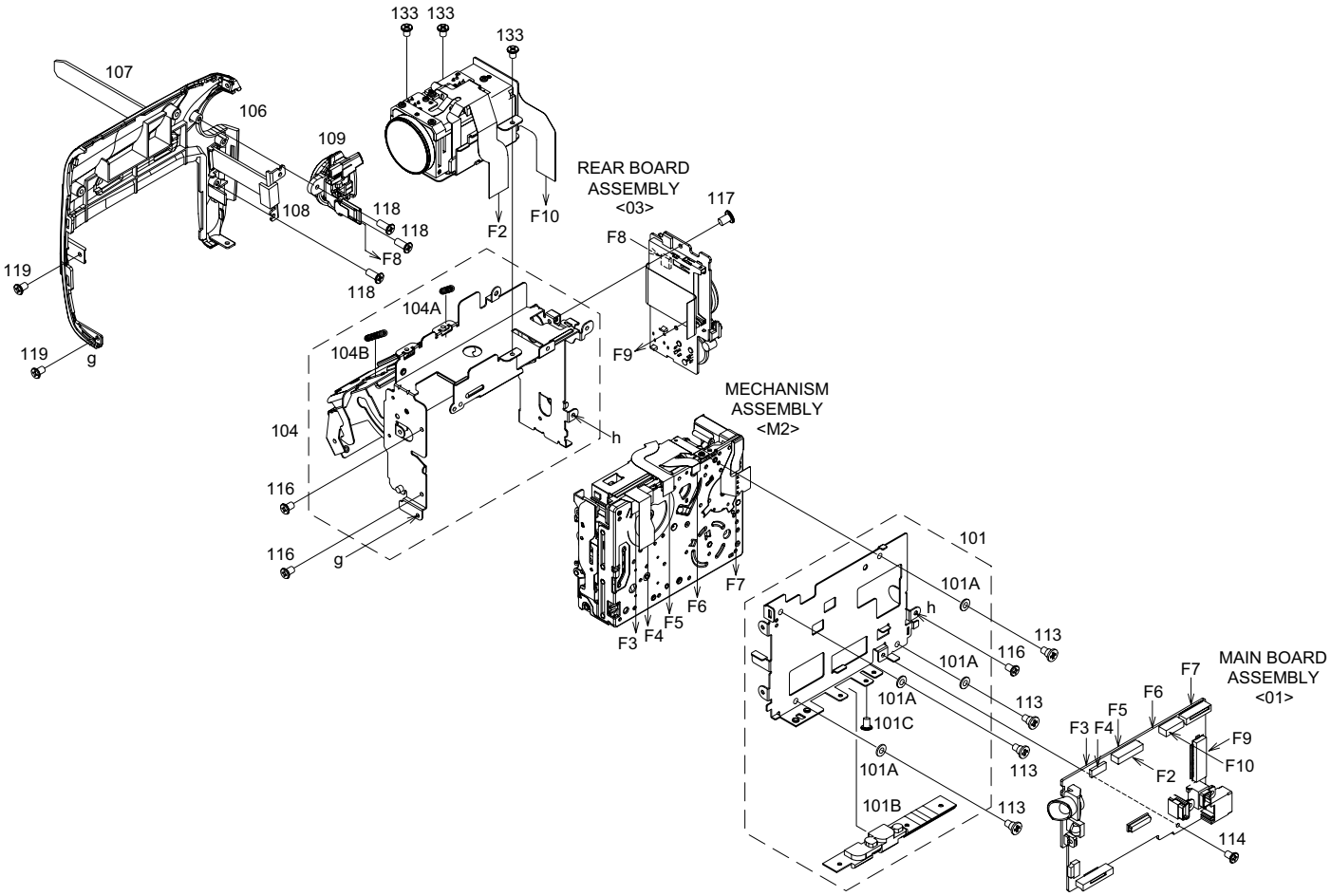
1.1 FINAL ASSEMBLY<M1>

The instruction manual to be provided with this product will differ according to the destination.

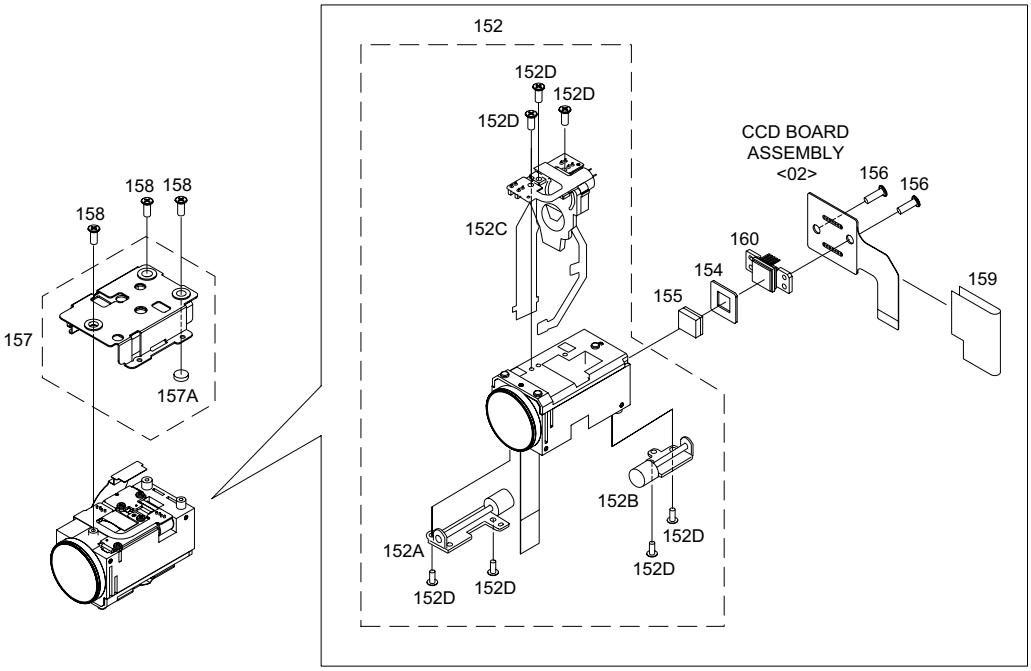


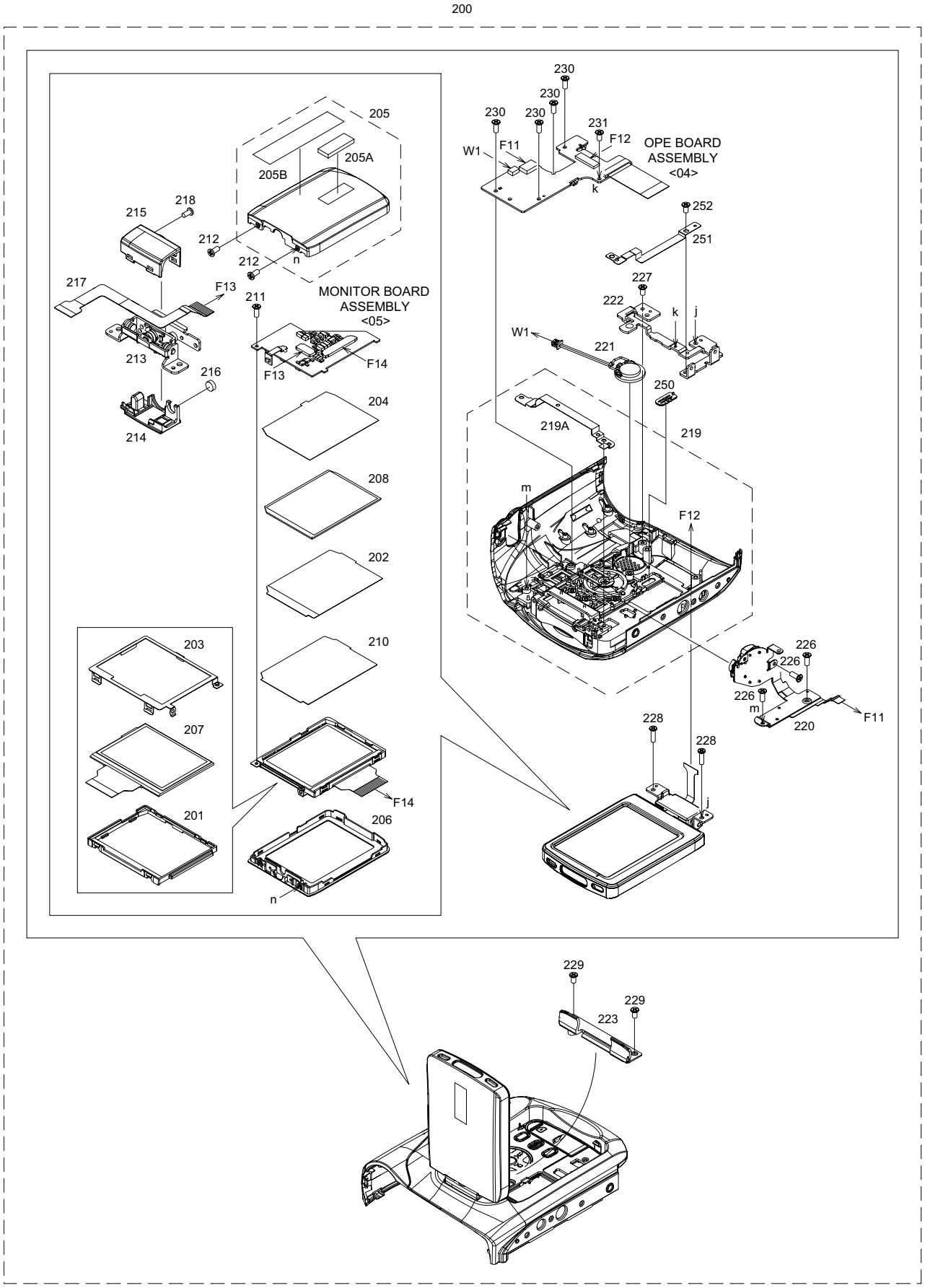
MODEL	MARK
GR-D640EX	A
GR-D640EY	B
GR-D640EZ	C
GR-D645EG	D
GR-D650EX	E
GR-D650EY	F
GR-D650EZ	G



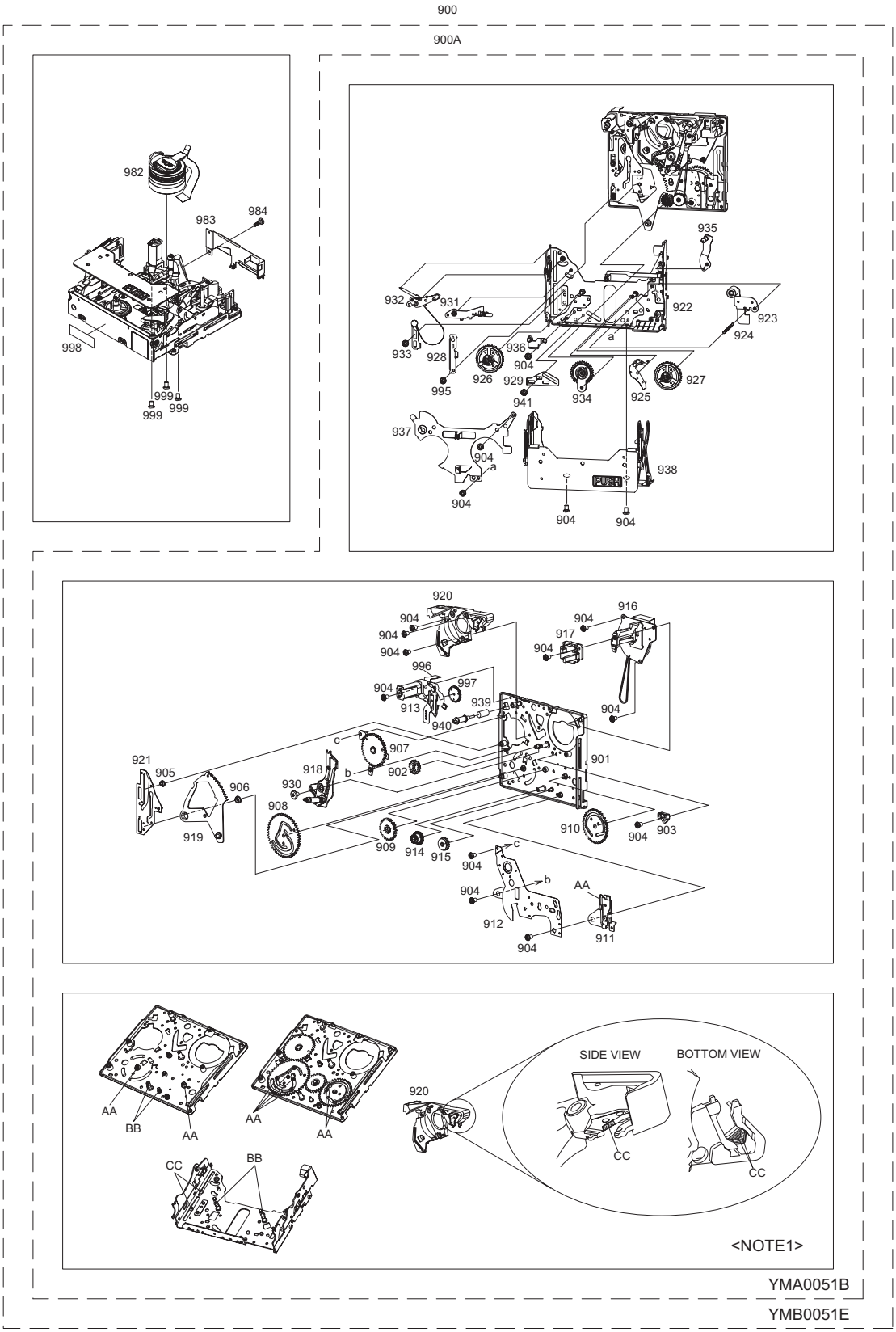


OP BLOCK ASSEMBLY




200
205
205A
205B
218
215
212
212
n
217
F13
213
216
214
211
MONITOR BOARD
ASSEMBLY
<05>
F13
F14
204
208
202
210
203
207
201
206
n
F14
230
230
230
230
231
F12
W1
F11
OPE BOARD
ASSEMBLY
<04>
k
252
251
227
222
k
j
W1
221
250
219A
219
m
F12
226
226
226
m
220
F11
228
228
j
229
229
223

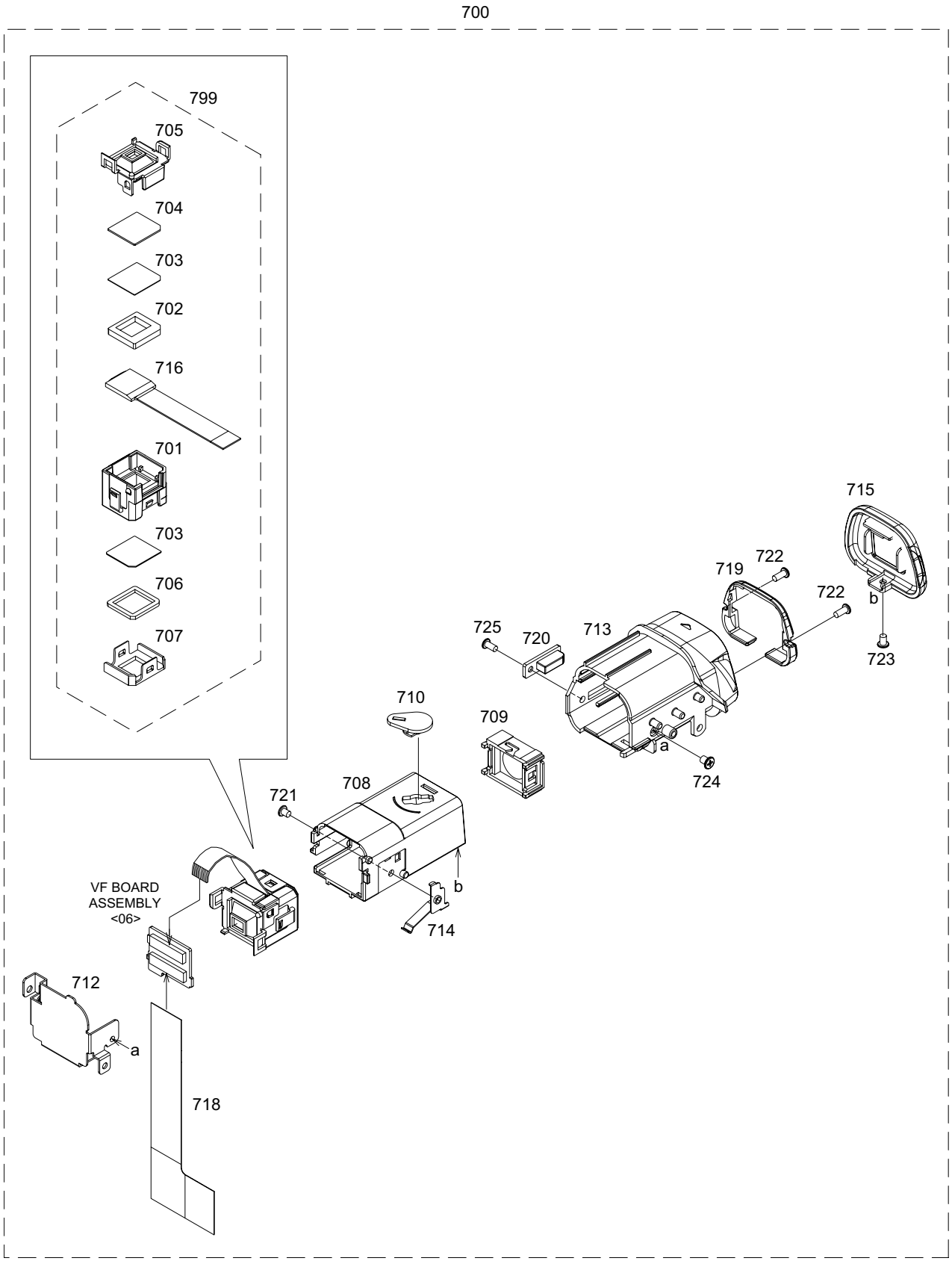
1.2 MECHANISM ASSEMBLY<M2>



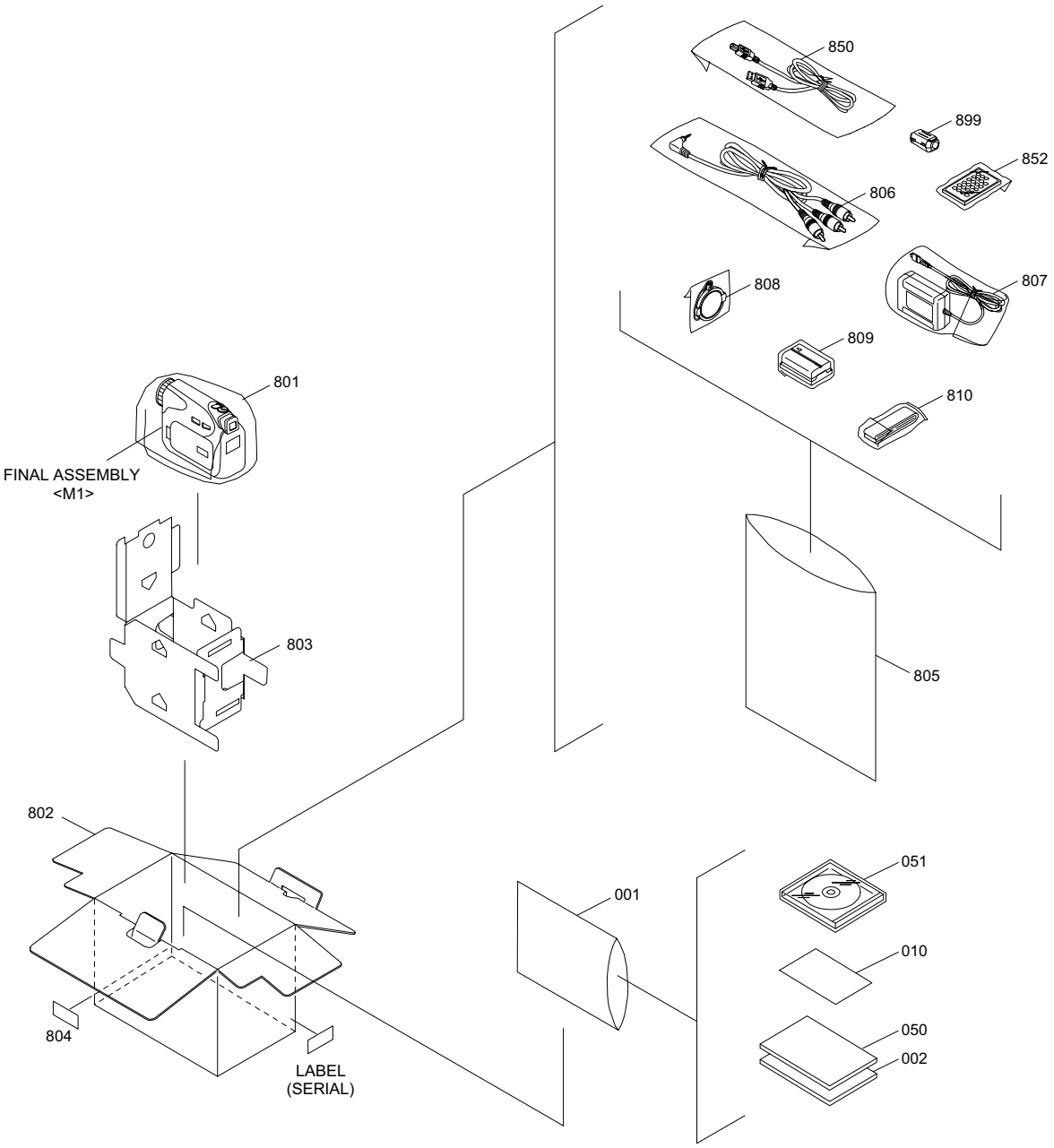
Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

NOTE1: The section marked in AA, BB and CC indicate lubrication and greasing areas.

1.3 VF ASSEMBLY <M3>



1.4 PACKING AND ACCESSORY ASSEMBLY <M5>



MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

2. PARTS LIST

FINAL ASSEMBLY <M1>

⚠ Symbol No.	Part No.	Part Name	Description	Local
101	LY35130-001D	FRAME ASSY		
101A	LY45033-001B	BUSH	(x4)	
101B	LY35129-001B	TRIPOD (BASE)		
101C	LY30031-0D4A	SPECIAL SCREW	FRM-TRIP	
104	LY21444-002D	MAIN BKT ASSY		
104A	LY45170-001C	TENSION SPRING		
104B	LY30002-074A	COMPRESSION SPRING		
106	LY21459-001C	LOWER CASE		
107	LY21320-003A	GRIP BELT		
108	LY45121-001A	BKT (G.BELT)		
109	LY21431-001B	POWER UNIT		
⚠ 110	LY35115-002D	REAR COVER ASSY		
110A	LY35137-001A	KNOB (BATT.)		
110B	LY30002-068A	COMPRESSION SPRING		
111	LY35131-001A	KNOB (EJECT)		
112	LY21446-001E	CASS.COVER		
113	LY30032-002A	SPECIAL SCREW	FRM-MECHA(x4)	
114	LY30031-0K7A	SPECIAL SCREW	M.PWB-FRM	
116	LY30031-0H5A	SPECIAL SCREW	FRM-M.BKT(x3)	
117	LY30031-0K7A	SPECIAL SCREW	R.PWB-BKT	
118	LY30031-0L8B	SPECIAL SCREW	POWER UNIT(x3)	
119	LY30031-0H5A	SPECIAL SCREW	LOWER-MBKT(x2)	
120	LY30031-0A3A	SPECIAL SCREW	LOWER-REAR	
121	LY30031-0D4A	SPECIAL SCREW	REAR-M.BKT	
122	LY30031-0D5A	SPECIAL SCREW	REAR-M.BKT	
123	LY30031-0K7A	SPECIAL SCREW	VF-M.BKT	
124	LY30031-0A3A	SPECIAL SCREW	LOWER-VF	
125	LY30031-0H5A	SPECIAL SCREW	CASS.COVER(x4)	
126	LY30031-0D5A	SPECIAL SCREW	FRONT-MBKT(x2)	
127	LY30031-0H5A	SPECIAL SCREW	FRONT-MBKT	
128	LY30031-0D5A	SPECIAL SCREW	UPPER-TRI(x3)	
129	LY30031-0A3A	SPECIAL SCREW	REAR-UPPER(x2)	
130	LY30031-0K7A	SPECIAL SCREW	DV JACK	
131	LY30031-0D5A	SPECIAL SCREW	LOWER-ZOOM	
132	LY30031-0H5A	SPECIAL SCREW	VF-M.BKT	
133	LY30031-0H5A	SPECIAL SCREW	BKTOP-MBKT(x3)	
152	J4M-103B	OP BLOCK ASSY	SET030-290	
152A	LY34842-001A	ZOOM MOTOR		
152B	LY34841-001A	FOCUS MOTOR		
152C	LY34843-003A	IRIS MOTOR UNIT		
152D	QYSPSGU1440ZA	TAP SCREW	M1.4 x 4mm(x7)	
154	LY44653-001A	SHEET	SET010/011	
155	LY45183-001A	OPTICAL LPF	SET010/011	
156	QYSPSGT1750RA	TAP SCREW	SET010/011 M1.7 x 5mm(x2)	
157	LY35267-001A-ML	BKT(OP 1M)ASSY	JPN	
157A	LY35192-001A	CUSHION(OP MEGA		
158	LY30031-011A	SPECIAL SCREW	(x3)	
159	LY35197-001A	BUSTERAID(CCD)	EMC	
160	LYH30676-001A	CCD BASAE ASSY		
181	LY35149-001C	COVER (JIG)		
182	LY35150-001A	COVER (ADJ)		
183	LY35138-001B	COVER (JACK)		
⚠ 200	UU06D206A	U.UNIT ASSY		
201	LY21452-001B	LCD CASE		
202	LY45123-001A	SHEET(M.DIFF)		
203	LY35160-001A	S.CASE (MONI)		
204	LY45125-001A	SHEET(M.REF)		
205	LY35206-001C	M.COVER ASSY		
205A	LY45126-001B	JVC MARK		
205B	LY45160-001A	POP STICKER		
206	LY21450-001D	MONITOR CASE		
207	QLD0357-001	LCD MODULE		
208	LY45124-001A	LIGHT GUIDE		
210	LY45152-001A	SHEET(BEF)		
211	LY30031-0K7A	SPECIAL SCREW	MONI.PWB	
212	LY30031-0K7A	SPECIAL SCREW	MONI.CASE(x2)	
213	LY35157-001C	HINGE ASSY		
214	LY35159-001B	H.COVER(L)		
215	LY35158-001B	H.COVER(U)		
216	LY42355-001A	P.C.MAGNET		
217	QAL0784-001	FPC	MONI-FPC	
218	LY30031-0A3A	SPECIAL SCREW	HINGE	
⚠ 219	LY21469-005D	U.CASE ASSY(1M)		
219A	LY35186-001B	SHEET(SHILD)		
220	LY21495-001A	ZOOM UNIT		
221	QAS0284-002	SPEAKER		
222	LY35146-001A	BKT.(HINGE)		
223	LY35147-001B	COVER (HINGE)		
226	LY30031-003A	SPECIAL SCREW	ZOOM UNIT(x3)	
227	LY30031-003A	SPECIAL SCREW	BKT HINGE	
228	LY30031-054A	SPECIAL SCREW	MONI HINGE(x2)	
229	LY30031-0H5A	SPECIAL SCREW	CVR HINGE(x2)	
230	LY30031-003A	SPECIAL SCREW	OPEPWB-UPP(x4)	
231	LY30031-0H5A	SPECIAL SCREW	OPEPWB-BKT	
250	LY35148-001B	KNOB (SLIDE)		
251	LY35387-001A	EARTH PLATE		
252	LY30031-003A	SPECIAL SCREW	E.P-UPPER	
300	FU06D201A	F.UNIT ASSY	FOR JAPAN	
301	LY21460-001C	FRONT COVER(MEGA)		
302	LY34774-002A	HOOD(MEGA)		
303	LY35176-001C	COVER(HOOD)		
304	LY35134-001C	SENSOR HOLDER		
305	LY34598-001A	MIC		
306	LY35135-001A	PLATE (MIC)		
307	LY30031-002A	SPECIAL SCREW	HOOD SCREW(x3)	
308	LY30031-003A	SPECIAL SCREW	PLATE MIC	
309	LY30030-0D3A	SPACER(A)		
310	LY30031-003A	SPECIAL SCREW	COVER(HOOD)(x2)	

MECHANISM ASSEMBLY <M2>

⚠ Symbol No.	Part No.	Part Name	Description	Local
900	YMB0051E	MECHA(B)ASSY		
900A	YMA0051B	MECHA(A)ASSY		
901	LY10525-001F	MAIN DECK ASSY		
902	LY34335-001B	LOADING GEAR 1		
903	LY34338-001A	BELT GUIDE		
904	LY34229-001A	MINI SCREW	(x16)	
905	LY44973-001B	SLIDE COLLAR 1		
906	LY44974-001B	SLIDE COLLAR 2		
907	QSW1116-002	ROTARY ENCODER		
908	LY21263-001B	MAIN CAM		
909	LY34319-001A	CONNECT GEAR		
910	LY34320-001A	SUB CAM		
911	LY34321-001B	PRESS ARM ASSY		
912	LY21264-001C	GEAR COVER		
913	LY34315-001E	M.BRACKET ASSY		
914	LY34337-001A	CENTER GEAR		
915	LY34336-001A	REEL PULLEY		
916	QAR0338-002	CAPSTAN MOTOR		
917	LY21270-001A	T5 CATCHER		
918	LY21266-001G	GUIDE RAIL ASSY		
919	LY34325-001B	DRIVE ARM ASSY		
920	LY10530-001E	DRUM BASE		
921	LY34326-001E	T.C.PLATE ASSY		
922	LY21271-005A	SLIDE DECK ASSY		
923	LY34345-001A	P.R.ARM ASSY		
924	LY44764-001B	TEN.SPRING(P.R)		
925	LY34348-001A	BRAKE PLATE		
926	LY34349-001D	REEL DISK ASSY		
927	LY34349-002B	REEL DISK ASSY		
928	LY34342-001A	GUIDE PLATE		
929	LY34340-001A	SLIDE GUIDE PLT		
930	LY34229-005A	MINI SCREW		
931	LY34358-001G	S1 ARM ASSY		
932	LY21273-001K	T.ARM ASSY		
933	LY43675-007A	MINI SCREW		
934	LY34355-001B	IDLER ARM ASSY		
935	LY34343-001B	T5 ARM ASSY		
936	LY34341-001B	CASSETTE GUIDE		
937	LY34365-001E	REEL COVER ASSY		
938	LY10531-001K	HOUSING ASSY		
939	LY44734-001B	COMP.SPRING		
940	LY34314-001A	G.ROLLER(S)ASSY		
941	LY45076-001A	TRUSTER SCREW		
982	YDV2104K-CX	DRUM ASSY	Y08539-02	
983	LY10599-001A	PROTECTOR		

⚠ Symbol No.	Part No.	Part Name	Description	Local
984	LY34229-006A	MINI SCREW		
995	LY34229-010A	MINI SCREW		
996	LY34676-002A	MOTOR FPC ASSY		
997	LY34318-001A	WORM WHEEL		
998	LY44890-001A	LABEL(HOUSING)		
999	LY34229-006A	MINI SCREW	(x3)	

VF ASSEMBLY <M3>

⚠ Symbol No.	Part No.	Part Name	Description	Local
700	VU06D201A	V.UNIT ASSY	FOR JAPAN	
701	LY21442-001C	HOLDER (LCD)		
702	LY45116-001A	CUSHION (1)		
703	LY45118-001A	SHEET (POLA)	(x2)	
704	LY45119-001A	SHEET (DIFF.)		
705	LY35123-001B	CASE (B.LIGHT)		
706	LY45117-001A	CUSHION (2)		
707	LY35124-001A	STOPPER (POLA)		
708	LY21441-001E	CASE (VF)		
709	LY45114-001A	LENS ASSY		
710	LY35121-001B	LEVER (VF)		
712	LY35189-001A	BKT(COVER)VF		
713	LY21465-001B	COVER(SLIDE)VF		
714	LY35126-001C	CLICK PLATE		
715	LY35119-001C	EYE CUP		
716	QLD0363-001	LCD MODULE		
718	QAL0783-001	FPC	VF FPC	
719	LY35169-001D	COVER (EYE CUP)		
720	LY35168-001C	KNOB (SWITCH)		
721	LY30031-0H5A	SPECIAL SCREW		
722	LY30031-003A	SPECIAL SCREW	CVREYECUP(x2)	
723	LY30031-057A	SPECIAL SCREW	EYECUP	
724	LY30031-0H5A	SPECIAL SCREW	BKT.COVER	
725	LY30031-0K7A	SPECIAL SCREW	KNOB SW	
799	LY35122-001C	LCD UNIT ASSY		

PACKING AND ACCESSORY ASSEMBLY <M5>

⚠ Symbol No.	Part No.	Part Name	Description	Local
001	LY34452-001A	POLY BAG	DOCUMENT	
⚠ 002	LYT1579-002A	INST BOOK(GE.FR)	(GERMAN FRENCH)	A,E
⚠ 002	LYT1579-003A	INST BOOK(DU.SP)	(DUTCH SPANISH)	A,E
⚠ 002	LYT1579-004A	INST BOOK(IT.PT)	(ITALIAN PORTUGUESE)	A,E
⚠ 002	LYT1579-005A	INST BOOK(GE)	(GERMAN)	B,D,F
⚠ 002	LYT1579-006A	INST BOOK(DA.FI)	(DANISH FINN)	B,F
⚠ 002	LYT1579-007A	INST BOOK(SW.NO)	(SWEDISH NORWEGIAN)	B,F
⚠ 002	LYT1579-008A	INST BOOK(RU.CZ)	(RUSSIAN CZECH)	C,G
⚠ 002	LYT1579-009A	INST BOOK(PO.HU)	(POLISH HUNGARIAN)	C,G
010	----------	WARRANTY CARD	BT-54029-1CAM	
050	LYT1520-003A	INST BOOK(SOFT.EXLANG)	(SOFT.EXLANG)	A,E
050	LYT1520-004A	INST BOOK(SOFT.EYLANG)	(SOFT.EYLANG)	B,F
050	LYT1520-005A	INST BOOK(SOFT.EZLANG)	(SOFT.EZLANG)	C,G
050	LYT1520-015A	INST BOOK(SOFT.GE)	(SOFT.GERMAN)	D
051	LY35273-005A	CD ROM ASSY		
801	LY30023-003A	POLY BAG		
802	LY35151-020A	PACKING CASE	PRODUCTION	
803	LY35188-001A-ML	CUSHION	JPN	
804	LY45161-002A-ML	LABEL	JPN	
805	QPA02503505P	POLY BAG	ACC. 25cm x 35cm	
806	QAM0508-001	A/V CABLE		
⚠ 807	LY21343-001B	AC ADAPTER	AP-V17E	
808	LY34811-001B	HOOD CAP ASSY		
⚠ 809	LY34647-002B	BATTERY PACK	BN-VF707U	
810	LY21397-002A	SHOULDER STRAP		
850	QAM0719-001	USB CABLE	USB	
852	LY21503-002A	REMOTE CTL UNIT	RM-V740US	
899	QQR0491-002	FERRITE CORE	USB TDK (BLACK)	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

MAIN BOARD ASSEMBLY <01>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA10078-06C	MAIN BOARD ASSY		A,B,C,D
PW1	LYA10078-05C	MAIN BOARD ASSY		E,F,G
IC1001	MN103S97NBF	IC(MICRO C ROM)	MASK	
IC1001 or	MN103SF66RBF	IC(MICRO C ROM)	FLASH	
IC1002	MB90099PFV138EX	IC(MICRO C ROM)	OSD EX	
IC1004	NJU7108F3-X	IC		
IC1004 or	TC75S56FU-X	IC		
IC1005	BR25L640F-W-X	IC	EEP 64K	
IC1006	RS5C314-X	IC		
IC1007	S-80823CNNB-G-W	IC		
IC1008	KSM-2003SN2E	IR DETECT UNIT	IRU	
IC1601	BD6637KV	IC	MDA 64PIN	
IC1701	BA10358FVM-W	IC	REELAMP5V	
IC1702	BA2903FVM-W	IC	REELSMT	
IC2201	AK4664VQ	IC	48P0.5	
IC3001	JCY0220	IC		
IC3006	MM3142FN-X	IC	2.5V_REG	
IC3501	JCY0132	IC		
IC3701	BH7612FV-X	IC		
IC3731	MM1504XN-X	IC		E,F,G
IC4201	HD49340HNP-X	IC	CDS/AD	
IC4202	MM1613BN-X	IC	REG 3.1V	
IC4901	JCY0223-X	IC		
IC5501	CXD3643R	IC	TG/V VRV	
IC5502	MM1613DN-X	IC	3.3V REG	
IC6001	FA7737F	IC		
IC8001	TMS320DSC24GHKL	IC	DSC24	
IC8002	K4S643232H-UC60	IC	64MSDRAM	
IC8003	MR27T3202L058LA	IC(MICRO C ROM)	MP P2ROM	
IC8003 or	SG32A90BFIR4C39	IC(MICRO C ROM)	AP FLASH	
IC8801	TSB41AB1ZQE-X	IC		
Q1001	DTA114EE-X	DIGI TRANSISTOR		
Q1001 or	BCR183T-X	DIGI TRANSISTOR		
Q1001 or	KRA302E-X	DIGI TRANSISTOR		
Q1001 or	RT1P141U-X	DIGI TRANSISTOR		
Q1001 or	PDTA114EE-X	DIGI TRANSISTOR		
Q1002	DTA143XE-X	DIGI TRANSISTOR		
Q1003	DTA143XE-X	DIGI TRANSISTOR		
Q1004	DTC143XE-X	DIGI TRANSISTOR		
Q1005	DTC143XE-X	DIGI TRANSISTOR		
Q1005 or	UN921FJ-X	DIGI TRANSISTOR		
Q1005 or	KRC419E-X	DIGI TRANSISTOR		
Q1005 or	RT1N432U-X	DIGI TRANSISTOR		
Q1006	2SC4617/QR/-X	TRANSISTOR		
Q1006 or	BC847BT-X	TRANSISTOR		
Q1006 or	2SD2216J/QR/-X	TRANSISTOR		
Q1006 or	2SC5383/E/-X	TRANSISTOR		
Q1006 or	2SC4738/YG/-X	TRANSISTOR		
Q1007	DTC124EE-X	DIGI TRANSISTOR		
Q1007 or	BCR141T-X	DIGI TRANSISTOR		
Q1007 or	KRC403E-X	DIGI TRANSISTOR		
Q1007 or	RT1N241U-X	DIGI TRANSISTOR		
Q1007 or	PDTC124EE-X	DIGI TRANSISTOR		
Q1008	UMZ1N-W	PAIR TRANSISTOR		
Q1008 or	PUMZ1-W	PAIR TRANSISTOR		
Q1008 or	XP4601-W	TRANSISTOR		
Q1601	UMC3N-W	DIGI TRANSISTOR	LD ON	
Q2403	2SC4617/QR/-X	TRANSISTOR		
Q2403 or	BC847BT-X	TRANSISTOR		
Q2403 or	2SD2216J/QR/-X	TRANSISTOR		
Q2403 or	2SC5383/E/-X	TRANSISTOR		
Q2403 or	2SC4738/YG/-X	TRANSISTOR		
Q3702	UMZ1N-W	PAIR TRANSISTOR		
Q3702 or	PUMZ1-W	PAIR TRANSISTOR		
Q3702 or	XP4601-W	TRANSISTOR		
Q3703	DTC114EE-X	DIGI TRANSISTOR		E,F,G
Q3704	DTC114EE-X	DIGI TRANSISTOR		E,F,G
Q3731	2SC5658/QRS/-X	TRANSISTOR		E,F,G
Q3734	2SC5658/QRS/-X	TRANSISTOR		E,F,G
Q3735	2SA2029/QRS/-X	TRANSISTOR		E,F,G
Q3736	DTC144EE-X	DIGI TRANSISTOR		E,F,G
Q3737	EMX1-W	TRANSISTOR		E,F,G
Q3738	EMZ1-W	PAIR TRANSISTOR		E,F,G
Q3739	UMZ1N-W	PAIR TRANSISTOR		E,F,G

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
Q3739	or PUMZ1-W	PAIR TRANSISTOR		E,F,G
Q3739	or XP4601-W	TRANSISTOR		E,F,G
Q4901	RPM-22PB	PHOTO TRANSISTOR	WB SENSER	
Q6101	US5U29-W	MOS FET		
Q6103	FDN360P-X	MOS FET		
Q6201	US5U29-W	MOS FET		
Q6301	US5U29-W	MOS FET		
Q6401	US5U29-W	MOS FET		
Q6501	FDN360P-X	MOS FET		
Q6505	2SA1774/QR/-X	TRANSISTOR		
Q6505	or BC857BT-X	TRANSISTOR		
Q6505	or 2SA1989/QR/-X	TRANSISTOR		
Q6701	FDN360P-X	MOS FET		
Q6702	FDN360P-X	MOS FET		
Q6703	FDN360P-X	MOS FET		
Q7701	PUMX1-W	PAIR TRANSISTOR		
Q7701	or BC847S-X	PAIR TRANSISTOR		
Q7701	or KTC801U/G/-X	PAIR TRANSISTOR		
Q7701	or RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7701	or UMX1N-W	PAIR TRANSISTOR		
Q7702	PUMX1-W	PAIR TRANSISTOR		
Q7702	or BC847S-X	PAIR TRANSISTOR		
Q7702	or KTC801U/G/-X	PAIR TRANSISTOR		
Q7702	or RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7702	or UMX1N-W	PAIR TRANSISTOR		
Q7703	PUMX1-W	PAIR TRANSISTOR		
Q7703	or BC847S-X	PAIR TRANSISTOR		
Q7703	or KTC801U/G/-X	PAIR TRANSISTOR		
Q7703	or RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7703	or UMX1N-W	PAIR TRANSISTOR		
Q7704	UMD3N-W	DIGI TRANSISTOR		
Q7704	or XP4311-W	TRANSISTOR		
Q7704	or RT3T11M-X	DIGI TRANSISTOR		
Q7704	or KRX201U-X	DIGI TRANSISTOR		
Q7801	PUMX1-W	PAIR TRANSISTOR		
Q7801	or BC847S-X	PAIR TRANSISTOR		
Q7801	or KTC801U/G/-X	PAIR TRANSISTOR		
Q7801	or RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7801	or UMX1N-W	PAIR TRANSISTOR		
Q7802	PUMX1-W	PAIR TRANSISTOR		
Q7802	or BC847S-X	PAIR TRANSISTOR		
Q7802	or KTC801U/G/-X	PAIR TRANSISTOR		
Q7802	or RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7802	or UMX1N-W	PAIR TRANSISTOR		
Q7803	PUMX1-W	PAIR TRANSISTOR		
Q7803	or BC847S-X	PAIR TRANSISTOR		
Q7803	or KTC801U/G/-X	PAIR TRANSISTOR		
Q7803	or RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7803	or UMX1N-W	PAIR TRANSISTOR		
Q7808	UMD3N-W	DIGI TRANSISTOR		
Q7808	or XP4311-W	TRANSISTOR		
Q7808	or RT3T11M-X	DIGI TRANSISTOR		
Q7808	or KRX201U-X	DIGI TRANSISTOR		
Q8002	BCR183T-X	DIGI TRANSISTOR		
Q8002	or DTA114EE-X	DIGI TRANSISTOR		
Q8002	or KRA302E-X	DIGI TRANSISTOR		
Q8002	or RT1P141U-X	DIGI TRANSISTOR		
Q8002	or PDTA114EE-X	DIGI TRANSISTOR		
D1001	DA221-X	DIODE ARRAY		
D1001	or MA133-X	SI DIODE		
D1001	or KDS221E-X	SI DIODE		
D1003	NSPW500CS/C0TU/	LED		
D1603	DAP222-X	DIODE ARRAY	LD ON	
D1603	or MA132WA-X	SI DIODE		
D3001	EC2C01C-TR-X	VARI CAP DIODE		
D3002	EC2C01C-TR-X	VARI CAP DIODE		E,F,G
D5501	1SS355-X	SI DIODE		
D5501	or MA111-X	SI DIODE		
⚠ D6001	RB715W-X	SB DIODE		
D6503	1SS355-X	SI DIODE		
D6503	or MA111-X	SI DIODE		
D6503	or 1SS352-X	SI DIODE		
D6504	1SS355-X	SI DIODE		
D6504	or MA111-X	SI DIODE		
D6504	or 1SS352-X	SI DIODE		
D6505	1SS355-X	SI DIODE		
D6505	or MA111-X	SI DIODE		

⚠ Symbol No.	Part No.	Part Name	Description	Local
D6505	or 1SS352-X	SI DIODE		
D6506	1SS355-X	SI DIODE		
D6506	or MA111-X	SI DIODE		
D6506	or 1SS352-X	SI DIODE		
D6507	UDZS8.2B-X	Z DIODE		
D6701	RB160M-30-X	SB DIODE		
D6702	RB160M-30-X	SB DIODE		
D6801	RB551V-30-X	SB DIODE		
D6801	or KDR412-X	SB DIODE		
D8801	RB551V-30-X	SB DIODE		
D8801	or KDR412-X	SB DIODE		
C1001	NDCA1HJ-7R0W	C CAPACITOR	7pF 50V J	
C1002	NDCA1HJ-7R0W	C CAPACITOR	7pF 50V J	
C1003	NDCA1HJ-7R0W	C CAPACITOR	7pF 50V J	
C1004	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C1005	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1006	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1007	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C1008	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C1009	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1010	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C1013	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1018	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C1023	NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
C1024	NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
C1025	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1029	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1031	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1032	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1033	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1035	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1036	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1038	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1039	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1040	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1043	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1044	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1046	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1049	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1051	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C1052	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C1053	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C1054	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C1055	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C1056	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1601	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1602	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C1603	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C1605	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1606	NCBA1HK-152W	C CAPACITOR	1500pF 50V K	
C1607	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C1614	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C1618	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C1619	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C1620	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C1621	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C1622	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C1623	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C1624	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1625	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C1626	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C1627	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C1628	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C1629	NCB21EK-224X	C CAPACITOR	0.22uF 25V K	
C1630	NCB21EK-224X	C CAPACITOR	0.22uF 25V K	
C1631	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C1632	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	
C1633	NCB30JK-474X	C CAPACITOR	0.47uF 6.3V K	
C1637	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C1702	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2202	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2203	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2204	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2205	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2209	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2210	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C2214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2217	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2223	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2224	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2402	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2403	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2404	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C2405	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2406	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2407	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C2603	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C2604	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C2605	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C2606	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C2611	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2612	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2613	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2623	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
C2624	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
C2655	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C2656	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3001	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3002	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3003	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3004	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3005	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3006	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3007	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3008	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3009	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3010	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3011	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3012	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3024	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C3027	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3028	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3029	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3030	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3031	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3034	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3035	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3036	NDCA1HJ-560W	C CAPACITOR	56pF 50V J	
C3037	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3039	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3040	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	E,F,G
C3042	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	E,F,G
C3043	NDCA1HJ-560W	C CAPACITOR	56pF 50V J	E,F,G
C3044	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3045	NCBA1HK-471W	C CAPACITOR	470pF 50V K	
C3046	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3047	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3048	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3055	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3056	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3057	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3065	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3067	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3071	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
C3079	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3080	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3084	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3085	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3088	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3089	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3090	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3091	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3092	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3093	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3094	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3095	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3096	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3097	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3098	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3099	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3101	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3102	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3127	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
C3128	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
C3504	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3505	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C3506	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3507	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3508	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3509	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C3510	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3511	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3512	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3513	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C3514	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3515	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3516	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3517	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3518	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3519	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3520	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3521	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3522	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C3523	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3524	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3525	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C3526	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3527	NDCA1EJ-221W	C CAPACITOR	220pF 25V J	
C3701	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3706	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3707	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3708	NBE20GM-226X	TA E CAPACITOR	22uF 4V M	
C3709	NBE20GM-226X	TA E CAPACITOR	22uF 4V M	
C3710	NBE20GM-107X	TA E CAPACITOR	100uF 4V M	
C3711	NBE20GM-107X	TA E CAPACITOR	100uF 4V M	
C3712	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3714	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3731	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	E,F,G
C3732	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	E,F,G
C3733	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	E,F,G
C3734	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	E,F,G
C3735	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	E,F,G
C3736	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	E,F,G
C3738	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	E,F,G
C3739	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	E,F,G
C3740	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	E,F,G
C3741	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	E,F,G
C3742	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	E,F,G
C3743	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	E,F,G
C3744	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	E,F,G
C3745	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	E,F,G
C3746	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	E,F,G
C3747	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	E,F,G
C3751	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	E,F,G
C4201	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4202	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C4203	NCBA1CK-123W	C CAPACITOR	0.012uF 16V K	
C4204	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4205	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4206	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C4207	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4208	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C4209	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C4210	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C4211	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4212	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4215	NBE90GM-336X	TA E CAPACITOR	33uF 4V M	
C4216	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4217	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C4218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4219	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C4220	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C4902	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C4903	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C4905	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4906	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4907	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4908	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4909	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C4911	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C4912	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4913	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4914	NDCA1HJ-680W	C CAPACITOR	68pF 50V J	
C4915	NDCA1HJ-121W	C CAPACITOR	120pF 50V J	
C4916	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C4917	NCB31AK-224X	C CAPACITOR	0.22uF 10V K	
C4922	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4932	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C4935	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C5501	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5502	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5503	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5504	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5505	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5506	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5507	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5508	NBP21VM-105X	TA E CAPACITOR	1uF 35V M	
C5509	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5510	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C5511	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5512	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C5513	NBE90JM-226X	TA E CAPACITOR	22uF 6.3V M	
C5514	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5515	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C5516	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5517	NBP21CM-106X	TA E CAPACITOR	10uF 16V M	
C5518	NBP21CM-106X	TA E CAPACITOR	10uF 16V M	
C5519	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5520	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5521	NBZ0003-475X	TA E CAPACITOR	4.7uF 20V M	
C5522	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5523	NBZ0003-475X	TA E CAPACITOR	4.7uF 20V M	
C5524	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6005	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6006	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6007	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6008	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6009	NCB31AK-224X	C CAPACITOR	0.22uF 10V K	
C6010	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6011	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6101	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6102	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C6103	NCBA1HK-221W	C CAPACITOR	220pF 50V K	
C6104	NCBA1HK-681W	C CAPACITOR	680pF 50V K	
C6105	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6106	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6107	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C6202	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C6203	NCBA1HK-681W	C CAPACITOR	680pF 50V K	
C6204	NCBA1HK-221W	C CAPACITOR	220pF 50V K	
C6301	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6302	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6303	NCBA1AK-683W	C CAPACITOR	0.068uF 10V K	
C6305	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6402	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6403	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6405	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6501	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6502	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6503	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6505	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6506	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6509	NCBA1AK-333W	C CAPACITOR	0.033uF 10V K	
C6510	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C6511	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6512	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6701	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C6702	NCB41CK-106X	C CAPACITOR	10uF 16V K	
C6704	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C6705	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6706	NCBA1HK-221W	C CAPACITOR	220pF 50V K	
C6707	NCBA1HK-821W	C CAPACITOR	820pF 50V K	
C6802	NCJ20JK-106X-D	C CAPACITOR	10uF 6.3V K	
C6803	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C6804	NCBA1HK-392W	C CAPACITOR	3900pF 50V K	
C7701	NCB11CK-225X-A	C CAPACITOR	2.2uF 16V K	
C7702	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7703	NCB31AK-105X	C CAPACITOR	1uF 10V K	
C7801	NCB31AK-105X	C CAPACITOR	1uF 10V K	
C7802	NCB21AK-225X	C CAPACITOR	2.2uF 10V K	
C7803	NCB21AK-225X	C CAPACITOR	2.2uF 10V K	
C7804	NCB21AK-225X	C CAPACITOR	2.2uF 10V K	
C7806	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7807	NCB31AK-105X	C CAPACITOR	1uF 10V K	
C7809	NCB11CK-475X	C CAPACITOR	4.7uF 16V K	
C7811	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C8001	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8002	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8003	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8004	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8005	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8006	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8007	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8008	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8009	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8010	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8011	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8012	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8013	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8018	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8021	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8022	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8023	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8024	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8025	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8026	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8027	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8030	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8032	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C8034	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C8801	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C8802	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8803	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8804	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8805	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C8806	NDCA1EJ-221W	C CAPACITOR	220pF 25V J	
C8807	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8808	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8809	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8810	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8811	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
R1001	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R1002	NRSA6AJ-470W	MG RESISTOR	47Ω1/16W J	
R1003	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1006	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1007	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R1008	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1009	NRSA6AJ-823W	MG RESISTOR	82kΩ1/16W J	
R1010	NRSA6AJ-623W	MG RESISTOR	62kΩ1/16W J	
R1011	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1012	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1013	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1014	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R1015	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1016	NRSA6AJ-753W	MG RESISTOR	75kΩ1/16W J	
R1017	NRSA6AJ-334W	MG RESISTOR	330kΩ1/16W J	
R1018	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1019	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1020	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1021	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1022	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1023	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1024	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1026	NRSA6AJ-273W	MG RESISTOR	27kΩ1/16W J	
R1027	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1028	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1029	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1030	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1031	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1032	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1033	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1034	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	E,F,G
R1035	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	A,B,C,D
R1036	NRSA6AJ-561W	MG RESISTOR	560Ω1/16W J	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R1038	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1040	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1041	NRSA6AJ-152W	MG RESISTOR	1.5kΩ1/16W J	
R1042	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1043	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1044	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1045	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R1046	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1047	NRSA6AJ-154W	MG RESISTOR	150kΩ1/16W J	
R1048	NRSA6AJ-272W	MG RESISTOR	2.7kΩ1/16W J	
R1049	NRSA6AJ-183W	MG RESISTOR	18kΩ1/16W J	
R1050	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1051	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	
R1052	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R1053	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1054	NRSA6AJ-393W	MG RESISTOR	39kΩ1/16W J	
R1055	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1056	NRSA6AJ-223W	MG RESISTOR	22kΩ1/16W J	
R1057	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1058	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1059	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1060	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1061	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1062	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1063	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1064	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1065	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1066	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1067	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1068	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R1069	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1070	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1071	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1074	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1075	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1076	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1077	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1078	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1079	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1080	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1081	NRSA6AJ-330W	MG RESISTOR	33Ω1/16W J	
R1082	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1083	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1084	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1085	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1086	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1087	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1088	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1091	NRSA6AJ-182W	MG RESISTOR	1.8kΩ1/16W J	
R1092	NRSA6AJ-391W	MG RESISTOR	390Ω1/16W J	
R1093	NRSA6AJ-152W	MG RESISTOR	1.5kΩ1/16W J	
R1094	NRSA6AJ-220W	MG RESISTOR	22Ω1/16W J	
R1095	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	E,F,G
R1096	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	A,B,C,D
R1601	NRSA6AJ-681W	MG RESISTOR	680Ω1/16W J	
R1602	NRSA6AJ-124W	MG RESISTOR	120kΩ1/16W J	
R1603	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R1604	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R1610	NRSA6AJ-271W	MG RESISTOR	270Ω1/16W J	
R1611	NRSA6AJ-271W	MG RESISTOR	270Ω1/16W J	
R1612	NRSA6AJ-683W	MG RESISTOR	68kΩ1/16W J	
R1613	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1614	NRZ0072-R330X	MG RESISTOR	0.33Ω1/4W F	
R1616	NRVA6AD-392W	CMF RESISTOR	3.9kΩ1/16W D	
R1617	NRZ0072-R330X	MG RESISTOR	0.33Ω1/4W F	
R1620	NRSA6AJ-683W	MG RESISTOR	68kΩ1/16W J	
R1621	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1622	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1624	NRVA6AD-183W	CMF RESISTOR	18kΩ1/16W D	
R1625	NRVA6AD-681W	CMF RESISTOR	680Ω1/16W D	
R1629	NRSA6AJ-564W	MG RESISTOR	560kΩ1/16W J	
R1635	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R1636	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R1637	NRSA6AJ-154W	MG RESISTOR	150kΩ1/16W J	
R1701	NRSA6AJ-823W	MG RESISTOR	82kΩ1/16W J	
R1702	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R1703	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R1704	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R1705	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R1706	NRSA6AJ-823W	MG RESISTOR	82kΩ1/16W J	
R1707	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1708	NRSA6AJ-124W	MG RESISTOR	120kΩ1/16W J	
R1709	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R1710	NRSA6AJ-124W	MG RESISTOR	120kΩ1/16W J	
R1711	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R1712	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R2202	NRSA6AJ-564W	MG RESISTOR	560kΩ1/16W J	
R2203	NRSA6AJ-393W	MG RESISTOR	39kΩ1/16W J	
R2204	NRSA6AJ-154W	MG RESISTOR	150kΩ1/16W J	
R2206	NRSA6AJ-563W	MG RESISTOR	56kΩ1/16W J	
R2207	NRSA6AJ-563W	MG RESISTOR	56kΩ1/16W J	
R2208	NRSA6AJ-223W	MG RESISTOR	22kΩ1/16W J	
R2209	NRSA6AJ-223W	MG RESISTOR	22kΩ1/16W J	
R2210	NRSA6AJ-821W	MG RESISTOR	820Ω1/16W J	
R2211	NRSA6AJ-821W	MG RESISTOR	820Ω1/16W J	
R2212	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω1/16W J	
R2213	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω1/16W J	
R2217	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R2402	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R2403	NRSA6AJ-183W	MG RESISTOR	18kΩ1/16W J	
R2407	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R2601	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R2602	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R2607	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R2608	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R2609	NRSA6AJ-223W	MG RESISTOR	22kΩ1/16W J	
R2610	NRSA6AJ-223W	MG RESISTOR	22kΩ1/16W J	
R3005	NRSA6AJ-224W	MG RESISTOR	220kΩ1/16W J	
R3006	NRSA6AJ-224W	MG RESISTOR	220kΩ1/16W J	E,F,G
R3007	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R3008	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R3009	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R3011	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	
R3012	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3014	NRSA6AJ-152W	MG RESISTOR	1.5kΩ1/16W J	
R3016	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	
R3017	NRSA6AJ-121W	MG RESISTOR	120Ω1/16W J	
R3018	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	
R3022	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3028	NRSA6AJ-331W	MG RESISTOR	330Ω1/16W J	
R3029	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R3031	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R3041	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	E,F,G
R3043	NRSA6AJ-331W	MG RESISTOR	330Ω1/16W J	
R3044	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R3051	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	A,B,C,D
R3060	NRSA6AD-911W	MG RESISTOR	910Ω1/16W D	
R3061	NRSA6AD-911W	MG RESISTOR	910Ω1/16W D	
R3062	NRSA6AD-911W	MG RESISTOR	910Ω1/16W D	
R3063	NRSA6AD-822W	MG RESISTOR	8.2kΩ1/16W D	
R3064	NRSA6AD-153W	MG RESISTOR	15kΩ1/16W D	
R3065	NRSA6AD-273W	MG RESISTOR	27kΩ1/16W D	
R3066	NRSA6AD-911W	MG RESISTOR	910Ω1/16W D	
R3067	NRSA6AD-822W	MG RESISTOR	8.2kΩ1/16W D	
R3068	NRSA6AD-911W	MG RESISTOR	910Ω1/16W D	
R3069	NRSA6AD-911W	MG RESISTOR	910Ω1/16W D	
R3071	NRSA6AD-681W	MG RESISTOR	680Ω1/16W D	
R3072	NRSA6AD-822W	MG RESISTOR	8.2kΩ1/16W D	
R3073	NRSA6AD-681W	MG RESISTOR	680Ω1/16W D	
R3081	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3083	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3089	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	
R3115	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R3121	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3126	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3128	NRSA6AJ-470W	MG RESISTOR	47Ω1/16W J	
R3156	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3157	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3158	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3159	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R3160	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3161	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3162	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3163	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3164	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3165	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R3166	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3167	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3168	NRSA6AJ-681W	MG RESISTOR	680Ω1/16W J	
R3169	NRSA6AJ-681W	MG RESISTOR	680Ω1/16W J	
R3172	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R3501	NRSA6AJ-471W	MG RESISTOR	470Ω1/16W J	
R3502	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R3503	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R3504	NRSA6AD-241W	MG RESISTOR	240Ω1/16W D	
R3505	NRSA6AD-241W	MG RESISTOR	240Ω1/16W D	
R3506	NRSA6AD-241W	MG RESISTOR	240Ω1/16W D	
R3507	NRSA6AD-241W	MG RESISTOR	240Ω1/16W D	
R3508	NRSA6AJ-223W	MG RESISTOR	22kΩ1/16W J	
R3516	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R3705	NRSA6AD-680W	MG RESISTOR	68Ω1/16W D	
R3706	NRSA6AD-680W	MG RESISTOR	68Ω1/16W D	
R3707	NRSA6AD-680W	MG RESISTOR	68Ω1/16W D	
R3709	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R3710	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R3711	NRSA6AJ-823W	MG RESISTOR	82kΩ1/16W J	
R3712	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R3713	NRSA6AD-680W	MG RESISTOR	68Ω1/16W D	
R3730	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R3731	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	E,F,G
R3732	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	E,F,G
R3733	NRSA6AJ-561W	MG RESISTOR	560Ω1/16W J	E,F,G
R3734	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	E,F,G
R3735	NRSA6AJ-182W	MG RESISTOR	1.8kΩ1/16W J	E,F,G
R3736	NRSA6AJ-183W	MG RESISTOR	18kΩ1/16W J	E,F,G
R3737	NRSA6AJ-183W	MG RESISTOR	18kΩ1/16W J	E,F,G
R3741	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	E,F,G
R3744	NRSA6AJ-561W	MG RESISTOR	560Ω1/16W J	E,F,G
R3745	NRSA6AJ-152W	MG RESISTOR	1.5kΩ1/16W J	E,F,G
R3750	NRSA6AJ-222W	MG RESISTOR	2.2kΩ1/16W J	E,F,G
R3751	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	E,F,G
R3752	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	E,F,G
R3753	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	E,F,G
R3754	NRSA6AJ-333W	MG RESISTOR	33kΩ1/16W J	E,F,G
R3755	NRSA6AJ-223W	MG RESISTOR	22kΩ1/16W J	E,F,G
R3756	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	E,F,G
R3757	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	E,F,G
R3759	NRSA6AJ-153W	MG RESISTOR	15kΩ1/16W J	E,F,G
R3760	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	E,F,G
R3761	NRSA6AJ-393W	MG RESISTOR	39kΩ1/16W J	E,F,G
R3763	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	E,F,G
R4201	NRSA6AJ-333W	MG RESISTOR	33kΩ1/16W J	
R4202	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R4901	NRSA6AJ-392W	MG RESISTOR	3.9kΩ1/16W J	
R4903	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	
R4904	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R4905	NRSA6AJ-153W	MG RESISTOR	15kΩ1/16W J	
R4906	NRSA6AJ-564W	MG RESISTOR	560kΩ1/16W J	
R4907	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R4908	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R4909	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R4910	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R4911	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R4916	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R4917	NRSA6AJ-333W	MG RESISTOR	33kΩ1/16W J	
R4919	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R4920	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R4923	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R4924	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R4925	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R4926	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R4927	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R4929	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R4931	NRSA6AJ-271W	MG RESISTOR	270Ω1/16W J	
R4932	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R4934	NRSA6AJ-183W	MG RESISTOR	18kΩ1/16W J	
R4935	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R4944	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R4951	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R5501	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5502	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5503	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5504	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5505	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5506	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5507	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5508	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5509	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R5510	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5511	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5512	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R5513	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R5514	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R5515	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R6001	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R6005	NRVA6AD-303W	CMF RESISTOR	30kΩ1/16W D	
R6008	NRVA6AD-823W	CMF RESISTOR	82kΩ1/16W D	
R6009	NRVA6AD-333W	CMF RESISTOR	33kΩ1/16W D	
⚠ R6010	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R6103	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R6104	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R6105	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R6106	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R6107	NRSA6AD-153W	MG RESISTOR	15kΩ1/16W D	
R6108	NRSA6AD-123W	MG RESISTOR	12kΩ1/16W D	
R6110	NRSA6AJ-332W	MG RESISTOR	3.3kΩ1/16W J	
R6201	NRSA6AD-153W	MG RESISTOR	15kΩ1/16W D	
R6202	NRSA6AD-753W	MG RESISTOR	75kΩ1/16W D	
R6203	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R6204	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	
R6303	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R6304	NRSA6AJ-123W	MG RESISTOR	12kΩ1/16W J	
R6305	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R6403	NRSA6AJ-273W	MG RESISTOR	27kΩ1/16W J	
R6404	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R6512	NRSA6AJ-392W	MG RESISTOR	3.9kΩ1/16W J	
R6513	NRSA6AJ-272W	MG RESISTOR	2.7kΩ1/16W J	
R6514	NRSA6AJ-682W	MG RESISTOR	6.8kΩ1/16W J	
R6515	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R6702	NRV142F-R20X	CMF RESISTOR	0.2Ω1/4W F	
R6704	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R6705	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R6708	NRSA6AJ-153W	MG RESISTOR	15kΩ1/16W J	
R6709	NRSA6AJ-114W	MG RESISTOR	110kΩ1/16W J	
R6710	NRSA6AJ-124W	MG RESISTOR	120kΩ1/16W J	
R6712	NRSA6AJ-561W	MG RESISTOR	560Ω1/16W J	
R6713	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R6714	NRSA6AJ-471W	MG RESISTOR	470Ω1/16W J	
R6715	NRSA6AD-472W	MG RESISTOR	4.7kΩ1/16W D	
R6716	NRSA6AJ-822W	MG RESISTOR	8.2kΩ1/16W J	
R6717	NRSA6AD-183W	MG RESISTOR	18kΩ1/16W D	
R6721	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R6802	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R6803	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R7701	NRSA6AD-393W	MG RESISTOR	39kΩ1/16W D	
R7702	NRSA6AD-682W	MG RESISTOR	6.8kΩ1/16W D	
R7703	NRSA6AD-123W	MG RESISTOR	12kΩ1/16W D	
R7704	NRSA6AD-123W	MG RESISTOR	12kΩ1/16W D	
R7705	NRSA6AD-123W	MG RESISTOR	12kΩ1/16W D	
R7706	NRSA6AD-392W	MG RESISTOR	3.9kΩ1/16W D	
R7707	NRSA6AD-392W	MG RESISTOR	3.9kΩ1/16W D	
R7708	NRSA6AD-392W	MG RESISTOR	3.9kΩ1/16W D	
R7712	NRSA6AJ-682W	MG RESISTOR	6.8kΩ1/16W J	
R7713	NRSA6AJ-682W	MG RESISTOR	6.8kΩ1/16W J	
R7714	NRSA6AJ-682W	MG RESISTOR	6.8kΩ1/16W J	
R7721	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R7801	NRSA6AD-393W	MG RESISTOR	39kΩ1/16W D	
R7802	NRSA6AD-682W	MG RESISTOR	6.8kΩ1/16W D	
R7803	NRSA6AD-123W	MG RESISTOR	12kΩ1/16W D	
R7804	NRSA6AD-123W	MG RESISTOR	12kΩ1/16W D	
R7805	NRSA6AD-123W	MG RESISTOR	12kΩ1/16W D	
R7806	NRSA6AD-392W	MG RESISTOR	3.9kΩ1/16W D	
R7807	NRSA6AD-392W	MG RESISTOR	3.9kΩ1/16W D	
R7808	NRSA6AD-392W	MG RESISTOR	3.9kΩ1/16W D	
R7809	NRSA6AJ-682W	MG RESISTOR	6.8kΩ1/16W J	
R7810	NRSA6AJ-682W	MG RESISTOR	6.8kΩ1/16W J	
R7811	NRSA6AJ-682W	MG RESISTOR	6.8kΩ1/16W J	
R7812	NRSA6AD-103W	MG RESISTOR	10kΩ1/16W D	
R7813	NRSA6AD-103W	MG RESISTOR	10kΩ1/16W D	
R7814	NRSA6AD-103W	MG RESISTOR	10kΩ1/16W D	
R7815	NRSA6AD-273W	MG RESISTOR	27kΩ1/16W D	
R7816	NRSA6AD-273W	MG RESISTOR	27kΩ1/16W D	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R7817	NRSA6AD-273W	MG RESISTOR	27kΩ1/16W D	
R7824	NRSA6AD-103W	MG RESISTOR	10kΩ1/16W D	
R7825	NRSA6AD-332W	MG RESISTOR	3.3kΩ1/16W D	
R7826	NRSA6AD-273W	MG RESISTOR	27kΩ1/16W D	
R7827	NRSA6AD-103W	MG RESISTOR	10kΩ1/16W D	
R7828	NRSA6AD-273W	MG RESISTOR	27kΩ1/16W D	
R7831	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R7832	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R8002	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R8008	NRSA6AJ-561W	MG RESISTOR	560Ω1/16W J	
R8009	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R8015	NRSA6AJ-473W	MG RESISTOR	47kΩ1/16W J	
R8016	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R8017	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R8019	NRSA6AJ-221W	MG RESISTOR	220Ω1/16W J	
R8021	NRSA6AJ-221W	MG RESISTOR	220Ω1/16W J	
R8022	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R8023	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R8025	NRSA6AJ-472W	MG RESISTOR	4.7kΩ1/16W J	
R8031	NRSA6AJ-100W	MG RESISTOR	10Ω1/16W J	
R8032	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R8041	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R8042	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R8046	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R8050	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R8051	NRSA6AJ-105W	MG RESISTOR	1MΩ1/16W J	
R8056	NRSA6AJ-152W	MG RESISTOR	1.5kΩ1/16W J	
R8058	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R8059	NRSA6AJ-154W	MG RESISTOR	150kΩ1/16W J	
R8060	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R8061	NRSA6AJ-0R0W	MG RESISTOR	0Ω1/16W J	
R8062	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
R8801	NRSA6AJ-101W	MG RESISTOR	100Ω1/16W J	
R8802	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R8803	NRSA6AJ-103W	MG RESISTOR	10kΩ1/16W J	
R8804	NRSA6AJ-394W	MG RESISTOR	390kΩ1/16W J	
R8805	NRSA6AJ-102W	MG RESISTOR	1kΩ1/16W J	
R8806	NRSA6AD-560W	MG RESISTOR	56Ω1/16W D	
R8807	NRSA6AD-560W	MG RESISTOR	56Ω1/16W D	
R8808	NRSA6AD-560W	MG RESISTOR	56Ω1/16W D	
R8809	NRSA6AD-560W	MG RESISTOR	56Ω1/16W D	
R8810	NRSA6AD-512W	MG RESISTOR	5.1kΩ1/16W D	
R8811	NRSA6AD-751W	MG RESISTOR	750Ω1/16W D	
R8812	NRSA6AD-562W	MG RESISTOR	5.6kΩ1/16W D	
R8821	NRSA6AJ-104W	MG RESISTOR	100kΩ1/16W J	
RA1001	NRZ0034-473W	NET RESISTOR	47kΩ1/32W J x4	
RA1002	NRZ0034-104W	NET RESISTOR	100kΩ1/32W J x4	
RA1003	NRZ0034-104W	NET RESISTOR	100kΩ1/32W J x4	
RA1004	NRZ0034-104W	NET RESISTOR	100kΩ1/32W J x4	
RA1005	NRZ0034-104W	NET RESISTOR	100kΩ1/32W J x4	
RA1006	NRZ0034-102W	NET RESISTOR	1kΩ1/32W J x4	
RA1007	NRZ0034-102W	NET RESISTOR	1kΩ1/32W J x4	
RA3001	NRZ0034-221W	NET RESISTOR	220Ω1/32W J x4	
RA3002	NRZ0034-221W	NET RESISTOR	220Ω1/32W J x4	
RA3003	NRZ0034-221W	NET RESISTOR	220Ω1/32W J x4	
RA3004	NRZ0034-221W	NET RESISTOR	220Ω1/32W J x4	
RA3005	NRZ0034-470W	NET RESISTOR	47Ω1/32W J x4	
RA3006	NRZ0034-470W	NET RESISTOR	47Ω1/32W J x4	
RA8001	NRZ0034-101W	NET RESISTOR	100Ω1/32W J x4	
RA8002	NRZ0034-101W	NET RESISTOR	100Ω1/32W J x4	
RA8003	NRZ0034-101W	NET RESISTOR	100Ω1/32W J x4	
RA8004	NRZ0034-101W	NET RESISTOR	100Ω1/32W J x4	
RA8005	NRZ0034-103W	NET RESISTOR	10kΩ1/32W J x4	
L1001	NQLC32M-100X	COIL	10uH M	
L1002	NQLC32M-100X	COIL	10uH M	
L1601	NQLC32M-100X	COIL	10uH M	
L1602	NQLC32M-100X	COIL	10uH M	
L2401	NQLC32M-100X	COIL	10uH M	
L2402	NQLC32M-100X	COIL	10uH M	
L2403	NQLC32M-100X	COIL	10uH M	
L2601	NQR0602-001X	FERRITE BEADS		
L2602	NQR0602-001X	FERRITE BEADS		
L2603	NQR0602-001X	FERRITE BEADS		
L3001	NQLC32M-100X	COIL	10uH M	
L3002	NQLC32M-100X	COIL	10uH M	
L3004	NQLC32M-100X	COIL	10uH M	
L3005	NQLC32M-100X	COIL	10uH M	
L3007	NQLC32M-100X	COIL	10uH M	
L3009	NQLC32M-100X	COIL	10uH M	
L3011	NQR0602-001X	FERRITE BEADS		
L3014	NQLD8DJ-2R2X	COIL	2.2uH J	E,F,G
L3015	NQLD8DJ-120X	COIL	12uH J	
L3501	NQR0602-001X	FERRITE BEADS		
L3502	NQLC32M-100X	COIL	10uH M	
L3503	NQR0602-001X	FERRITE BEADS		
L3701	NQLC32M-100X	COIL	10uH M	
L3731	NQLD8DJ-6R8X	COIL	6.8uH J	E,F,G
L3732	NQLD8DJ-6R8X	COIL	6.8uH J	E,F,G
L4201	NQLC32M-100X	COIL	10uH M	
L4202	NQLC32M-100X	COIL	10uH M	
L4203	NQR0129-002X	FERRITE BEADS		
L4901	NQR0129-002X	FERRITE BEADS		
L4902	NQLC32M-100X	COIL	10uH M	
L4903	NQL38DK-100X	P COIL	10uH K	
L4904	NQLC32M-100X	COIL	10uH M	
L5501	NQR0129-002X	FERRITE BEADS		
L5502	NQLC32M-100X	COIL	10uH M	
L5503	NQR0129-002X	FERRITE BEADS		
L5504	NQLC32M-100X	COIL	10uH M	
L5505	NQR0129-001X	FERRITE BEADS		
L5506	NQLC32M-100X	COIL	10uH M	
L5507	NQR0129-001X	FERRITE BEADS		
L6101	NQL87EN-390X	COIL	39uH N	
L6201	NQL87EN-390X	COIL	39uH N	
L6301	NQL62EM-470X	COIL	47uH M	
L6401	NQL62EM-470X	COIL	47uH M	
⚠ L6501	NQL52EM-221X	COIL	220uH M	
L6502	NQLC32M-100X	COIL	10uH M	
L6701	NQL52EM-390X	COIL	39uH M	
L6801	NQL365K-470X	COIL	47uH K	
L7701	NQLC32M-100X	COIL	10uH M	
L7802	NQR0602-001X	FERRITE BEADS		
L8001	NQR0602-001X	FERRITE BEADS		
L8002	NQR0602-001X	FERRITE BEADS		
L8003	NQR0602-001X	FERRITE BEADS		
L8005	NQR0602-001X	FERRITE BEADS		
L8006	NQR0602-001X	FERRITE BEADS		
L8008	NQLC32M-100X	COIL	10uH M	
L8010	NQR0506-002X	EMI FILTER		
L8801	NQR0602-001X	FERRITE BEADS		
L8802	NQR0602-001X	FERRITE BEADS		
CN101	QGF0508F3-40X	CONNECTOR	REAR FFC/FPC (1-40)	
CN102	QGB0519J1-20X	CONNECTOR	JIG CN B-B (1-20)	
CN103	QGF0549C2-30W	CONNECTOR	OPE FFC/FPC (1-30)	
CN1601	QGF0543F3-08X	CONNECTOR	LM/ENC FFC/FPC (1-8)	
CN1602	QGF0543F3-11X	CONNECTOR	DRUM FFC/FPC (1-11)	
CN1603	QGF0543F3-18X	CONNECTOR	CAPSTAN FFC/FPC (1-18)	
CN1604	QGF0543F3-16X	CONNECTOR	SENSOR FFC/FPC (1-16)	
CN2601	QGA1001F1-04X	CONNECTOR	MIC W-B (1-4)	
CN3501	QGF0543F3-08X	CONNECTOR	HEAD FFC/FPC (1-8)	
CN4201	QGF0549C2-20W	CONNECTOR	CCD FFC/FPC (1-20)	
CN4901	QGF0549C2-22W	CONNECTOR	OP FFC/FPC (1-22)	
CN7801	QGF0549C2-24W	CONNECTOR	VF FFC/FPC (1-24)	
⚠ F1601	NMFZ007-R20X-K	FUSE	1608 UNREG 0.2A 50V	
⚠ F1602	NMFZ007-R50X-K	FUSE	1608 REG3V 0.5A 50V	
⚠ F6001	NMFZ007-2R5X-K	FUSE	2.5A 24V	
J101	QNA0040-001	DC JACK	DCJACK	
J102	QNZ0822-001	D CONNECTOR	DVJACK	
J103	QNZ0617-001	USB CONNECTOR	USB	
TL102	NNZ0084-002X	EARTH TERMINAL		
X1001	NAX0645-001X	CRYSTAL	20.000MHz	
X1002	NAX0564-001X	CRYSTAL	32.768kHz	
X5501	NAX0674-001X	CXO	72M CXO 72.000MHZ	
HD1	LY35153-002A	HOLDER (LED)	LED HOLDER	
OT1	LY30035-013A	SPACER(A)	FOR LED	

CCD BOARD ASSEMBLY <02>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20031-01A	CCD BOARD ASSY		

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
Q5201	2SC4083/NP/-X	TRANSISTOR		
Q5202	2SC4081/RS/-X	TRANSISTOR		
Q5203	2SC4083/NP/-X	TRANSISTOR		
C5201	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5202	NBZ0018-106X	TA E CAPACITOR	10uF 20V M	
C5203	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5204	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C5205	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5206	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5207	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
R5201	NRSA63J-332X	MG RESISTOR	3.3kΩ1/16W J	
R5202	NRSA63J-152X	MG RESISTOR	1.5kΩ1/16W J	
R5203	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
R5204	NRSA63J-123X	MG RESISTOR	12kΩ1/16W J	
R5205	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
L5201	NQL38DK-100X	P COIL	10uH K	
L5202	NQL38DK-100X	P COIL	10uH K	

REAR BOARD ASSEMBLY <03>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20024-06C	REAR BOARD ASSY		
D501	EMZ6.8N-X	Z DIODE	EMZ6.8N-X	
D504	EMZ6.8N-X	Z DIODE	EMZ6.8N-X	
C503	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C504	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C505	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C506	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C508	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C510	NDC21HG-151X	C CAPACITOR	150pF 50V G	
C513	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R501	NRSA63J-101X	MG RESISTOR	100Ω1/16W J	
R502	NRSA63J-101X	MG RESISTOR	100Ω1/16W J	
R503	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
R504	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
R505	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
R506	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
R507	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
R508	NRSA63J-103X	MG RESISTOR	10kΩ1/16W J	
R509	NRSA63J-221X	MG RESISTOR	220Ω1/16W J	
R510	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R511	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R512	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R513	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R514	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
L501	NQR0251-004X	FERRITE BEADS		
L502	NQR0251-004X	FERRITE BEADS		
L503	NQR0006-001X	FERRITE BEADS		
L504	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
L505	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
L506	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
⚠ BT501	QAB0025-001	LITHIUM BATTERY	CR2032/1F4 3V 220mAh	
BT502	LY35060-001B	BATT.TERM.UNIT		
CN501	QGF0508F3-40X	CONNECTOR	TO MAIN(S5) FFC/FPC (1-40)	
CN502	QGF0534F3-07X	CONNECTOR	TO POWER FFC/FPC (1-7)	
CN503	NNZ0151-001X	SD CARD CONNE	NNZ151(SD)	
J501	QNS0264-001	3.5 JACK	AVJACK	
J502	QND0068-001	S JACK	S JACK	
S501	NSW0162-001X	DETECT SWITCH	EJECT	
OT1	LY30034-038A	SPACER(A)	SD CN	
WR1	QUQK05-40X4BA-E	FFC WIRE	REAR FFC 40pin 4.5cm	

OPE BOARD ASSEMBLY <04>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20026-02C	OPE BOARD ASSY		
R401	NRSA63J-332X	MG RESISTOR	3.3kΩ1/16W J	
R402	NRSA63J-682X	MG RESISTOR	6.8kΩ1/16W J	
R403	NRSA63J-223X	MG RESISTOR	22kΩ1/16W J	
R404	NRSA63J-332X	MG RESISTOR	3.3kΩ1/16W J	
R405	NRSA63J-682X	MG RESISTOR	6.8kΩ1/16W J	
R406	NRSA63J-223X	MG RESISTOR	22kΩ1/16W J	
CN401	QGF0543F3-30X	CONNECTOR	TO MAIN FFC/FPC (1-30)	
CN402	QGF0528F4-18X	CONNECTOR	TO MONITOR FFC/FPC (1-18)	
CN403	QGF0534F3-08X	CONNECTOR	TO ZOOM FFC/FPC (1-8)	
CN404	QGA1001F1-02X	CONNECTOR	TO SPK W-B (1-2)	
S401	NSW0225-001X	DETECT SWITCH	MONI SW	
S402	NSW0198-001X	TACT SWITCH	SET_SW	
S403	NSW0099-001X	SLIDE SWITCH	NSW99X(SD)	
S404	NSW0198-001X	TACT SWITCH	MENU	
S405	NSW0198-001X	TACT SWITCH	WIDE	
S406	NSW0198-001X	TACT SWITCH	LED LIGHT	
S407	NSW0198-001X	TACT SWITCH	STOP	
S408	NSW0198-001X	TACT SWITCH	REW	
S409	NSW0198-001X	TACT SWITCH	FF	
S410	NSW0198-001X	TACT SWITCH	PLAY	
OT1	LY30035-008A	SPACER(A)		
OT2	LY41818-001A	SPACER	(x2)	
WR1	QUQK05-3005AA-E	FFC WIRE	OPE FFC 30pin 5cm	

MONITOR BOARD ASSEMBLY <05>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20023-02A	MONITOR BOARD ASSY		
IC7601	DN8797MS-X	IC		
Q7601	PUMX1-W	PAIR TRANSISTOR		
Q7601 or	BC847S-X	PAIR TRANSISTOR		
Q7601 or	KTC801U/G/-X	PAIR TRANSISTOR		
Q7601 or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7601 or	UMX1N-W	PAIR TRANSISTOR		
Q7602	PUMX1-W	PAIR TRANSISTOR		
Q7602 or	BC847S-X	PAIR TRANSISTOR		
Q7602 or	KTC801U/G/-X	PAIR TRANSISTOR		
Q7602 or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7602 or	UMX1N-W	PAIR TRANSISTOR		
D7601	RB521S-30-X	SB DIODE		
D7601 or	KDR720E-X	SB DIODE		
D7602	RB521S-30-X	SB DIODE		
D7602 or	KDR720E-X	SB DIODE		
D7603	RB521S-30-X	SB DIODE		
D7603 or	KDR720E-X	SB DIODE		
D7604	RB521S-30-X	SB DIODE		
D7604 or	KDR720E-X	SB DIODE		
D7605	NSSW008C/T052-X	LED	LED	
D7605 or	HEW1142LS/93/-X	LED	LED	
D7606	NSSW008C/T052-X	LED	LED	
D7606 or	HEW1142LS/93/-X	LED	LED	
D7607	NSSW008C/T052-X	LED	LED	
D7607 or	HEW1142LS/93/-X	LED	LED	
C7601	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7602	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C7603	NCB31EK-153X	C CAPACITOR	0.015uF 25V K	
C7606	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7607	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C7608	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C7609	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7610	NCB11EK-105X	C CAPACITOR	1uF 25V K	
C7611	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7612	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7613	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7614	NCB21CK-105X	C CAPACITOR	1uF 16V K	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-D640EX	A	GR-D645EG	D	GR-D650EZ	G
GR-D640EY	B	GR-D650EX	E		
GR-D640EZ	C	GR-D650EY	F		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C7615	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7622	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7623	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7624	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7625	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R7601	NRSA63J-104X	MG RESISTOR	100kΩ1/16W J	
R7602	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R7604	NRSA63D-223X	MG RESISTOR	22kΩ1/16W D	
R7605	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R7606	NRSA63J-106X	MG RESISTOR	10MΩ1/16W J	
R7609	NRSA63J-0R0X	MG RESISTOR	0Ω1/16W J	
R7610	NRSA63D-912X	MG RESISTOR	9.1kΩ1/16W D	
R7611	NRSA63D-912X	MG RESISTOR	9.1kΩ1/16W D	
R7612	NRSA63D-912X	MG RESISTOR	9.1kΩ1/16W D	
R7613	NRSA63D-103X	MG RESISTOR	10kΩ1/16W D	
R7614	NRSA63D-103X	MG RESISTOR	10kΩ1/16W D	
R7615	NRSA63D-103X	MG RESISTOR	10kΩ1/16W D	
R7616	NRSA63J-332X	MG RESISTOR	3.3kΩ1/16W J	
R7617	NRSA63J-682X	MG RESISTOR	6.8kΩ1/16W J	
R7618	NRSA63J-470X	MG RESISTOR	47Ω1/16W J	
R7619	NRSA63J-470X	MG RESISTOR	47Ω1/16W J	
R7620	NRSA63J-470X	MG RESISTOR	47Ω1/16W J	
L7602	NRSA02J-0R0X	MG RESISTOR	0Ω1/10W J	
L7603	NRSA02J-0R0X	MG RESISTOR	0Ω1/10W J	
L7604	NRSA02J-0R0X	MG RESISTOR	0Ω1/10W J	
CN7601	QGF0312F1-21W	CONNECTOR	TO OPE FFC/FPC (1-21)	
CN7602	QGF0528F4-40X	CONNECTOR	FFC/FPC (1-40)	
OT1	QAL0785-001	FPC		

VF BOARD ASSEMBLY <06>

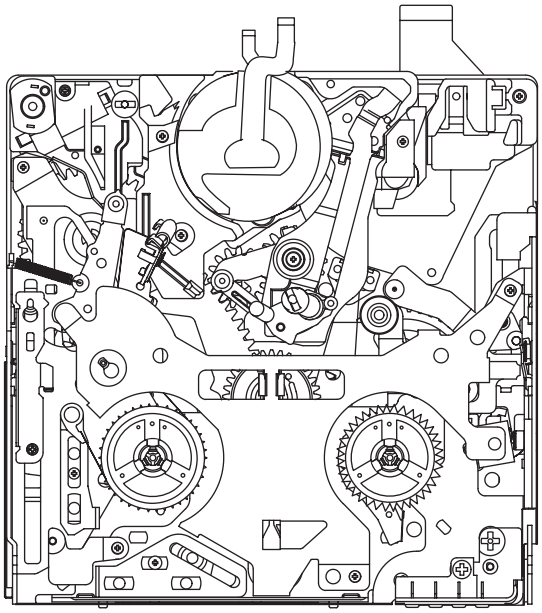
⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LYA20027-01B	VF BOARD ASSY		
Q7001	PUMX1-W	PAIR TRANSISTOR		
Q7001 or	BC847S-X	PAIR TRANSISTOR		
Q7001 or	KTC801U/G/-X	PAIR TRANSISTOR		
Q7001 or	RT3CLLM/EF/-X	PAIR TRANSISTOR		
Q7001 or	UMX1N-W	PAIR TRANSISTOR		
D7001	E1S35AW0C501-X	LED		
D7002	UDZS5.1B-X	Z DIODE		
C7001	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7002	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	
R7001	NRSA63J-332X	MG RESISTOR	3.3kΩ1/16W J	
R7002	NRSA63J-561X	MG RESISTOR	560Ω1/16W J	
R7003	NRSA63J-470X	MG RESISTOR	47Ω1/16W J	
CN7001	QGF0543F3-23X	CONNECTOR	TO MAIN FFC/FPC (1-23)	
CN7002	QGF0543F3-22X	CONNECTOR	TO VF LCD FFC/FPC (1-22)	
S7001	NSW0271-001X	DETECT SWITCH	VF SW	

JVC

SERVICE MANUAL

MECHANISM ASSEMBLY

DVC MECHANISM



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SECTION 1
JIGS AND TOOLS

1.1 TOOLS REQUIRED FOR ADJUSTMENTS

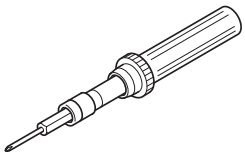
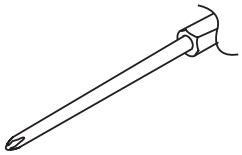
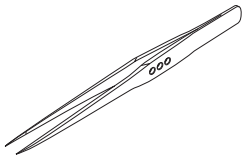
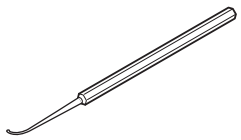
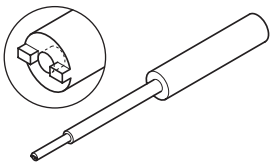
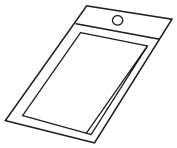
1. Torque driver YTU94088	2. Bit YTU94088-003
	
3. Tweezers P-895	4. Chip IC replacement jig PTS40844-2
	
5. Guide driver YTU94148A-1	6. Cleaning cloth KSMM-01
	

Fig.1-1-1

1. Torque driver
Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.
Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.

2. Bit
This bit is slightly longer than those set in conventional torque drivers.

3. Tweezers
To be used for removing and installing parts and wires.

4. Chip IC replacement jig
To be used for replacement of part.

5.Guide driver
To be used for the height adjustment such as the guide rollers.

6. Cleaning cloth
Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 DVC MECHANISM

2.1.1 Precautions

(1) When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.055 N·m (0.56 kgf·cm).
(2) Be sure to disconnect the set from the power supply before fastening and soldering parts.
(3) When disconnecting/connecting wires, be careful not to get them and their connectors damaged.
(4) When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

2.1.2 Notes on procedure for disassembly/assembly

The DISASSEMBLY PROCEDURE TABLE shows the procedure to disassemble/reassemble mechanism parts.
Carefully read the following explanation before starting actual disassembling/reassembling work. The item numbers(circled numbers)in the following explanation correspond to those appearing under respective columns of the table.

Example

NO.	PART NAME		FIG.	POINT	NOTE	REMARKS
[1]	CASSETTE HOUSING ASSY	T	Fig.2-4-3	3(S1),(L1a)-(L1e)	**NOTE 1 a,b,c,d**	ADJUSTMENT
[2]	UPPER BASE ASSY	T	Fig.2-4-4	(S2),(L2a),(L2b)	**NOTE 2**	
[3]	DRUM ASSY	T		(S3a),2(S3b)	**NOTE 3 a,b**	
[4]	REEL DISK ASSY(SUP)	T	Fig.2-4-5	(W4)	**NOTE 4 a**	
[5]	REEL DISK ASSY(TU)	T		(W5a),(W5b),(W5c)	**NOTE 5 a,b**	
[6]	REEL COVER ASSY	T		(W6),(S6a),2(S6b)	**NOTE 6**	ADJUSTMENT

*1 *2 *3 *4 *5 *6 *7

*1 Numbers appearing in this column indicate the order to remove parts. When reassembling, follow these numbers in the reverse order. Circled numbers in this column correspond to those appearing in drawings of this section.
*2 This column shows part names corresponding to numbers in the left column.
*3 The symbol (T or B)appearing in this column shows the side which the objective part is mounted on.
T =the upper side, B =the lower side
*4 Symbols appearing in this column indicate drawing numbers.
*5 This column indicates parts and points such as screws, washers,springs,and others to be removed/fitted for disassembling/reassembling the mechanism. Besides such the parts, this column occasionally indicates working points.

P = Spring
W = Washer
S = Screw
* = Lock (L),soldering (SD),shield,connector (CN),etc.

Example

- Remove (W1)=Washer W1.
- Remove the solder at (SD1)=Point SD1.
- Disconnect A = Connector A.

*6 Numbers in this column represent the numbers of notes in the text.
(For parts that need phase adjustment after reassembling, refer to “MECHANISM ADJUSTMENTS”.)
*7 This column indicates required after-disassembling/-reassembling work such as phase adjustment or mechanism adjustment.

2.1.3 DISASSEMBLY AND ASSEMBLY OF MECHANISM ASSEMBLY

2.1.3.1 General statement

The mechanism should be disassembled/assembled in the CASS IN mode (ASSEMBLY mode). (Refer to Fig. 2-1-2,2-1-5.) When the mechanism assembly is removed from the main body, it is generally set in the STOP mode.

After the mechanism assembly is removed from the main body, it is required to forcibly supply 3V DC to the LOADING MOTOR to unload, and then set the CASS IN mode.

<Mechanism assembly/Cassette housing assembly>

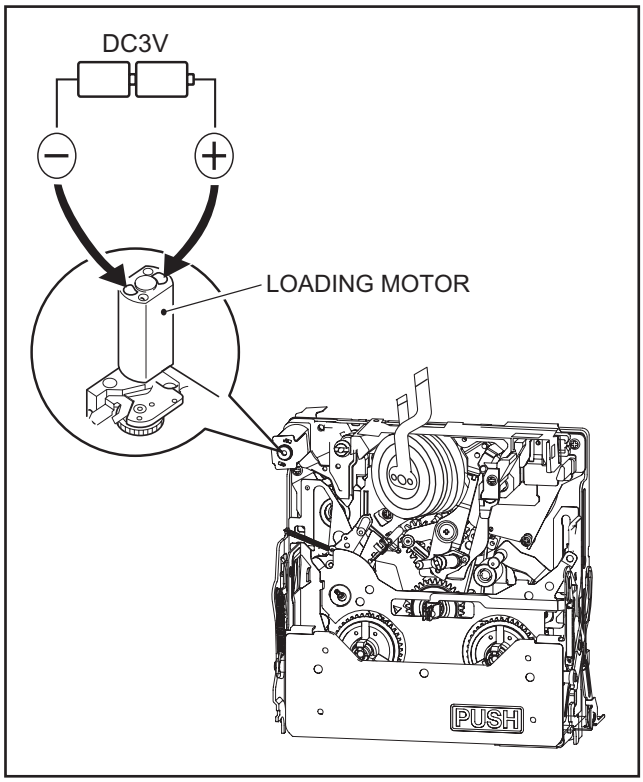


Fig.2-1-1

<Back side of the mechanism assembly>

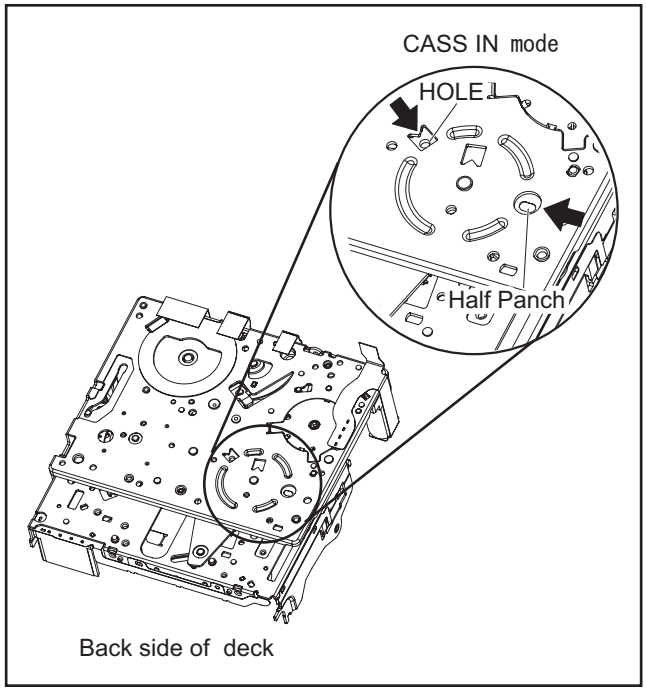


Fig.2-1-2

2.1.3.2 Mechanism modes

The mechanism mode of this model is classified into five modes as shown in Fig. 2-1-9. Each mechanism mode can be distinguished from others by the relative position of "△", "⬭", "□" marks on the sub cam gear to the inner or outer protrusion on the main deck. Refer to Fig. 2-1-3 to 2-1-8 below.

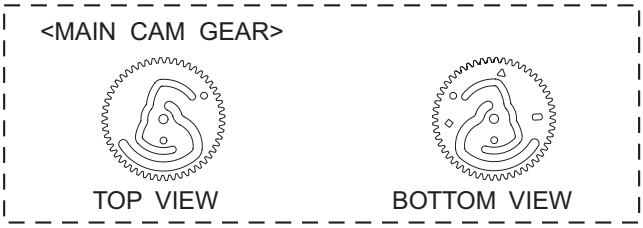


Fig.2-1-3

<Confirmation of mode>
➡ : HOLE(Penetration)
⇨ : Half Panch

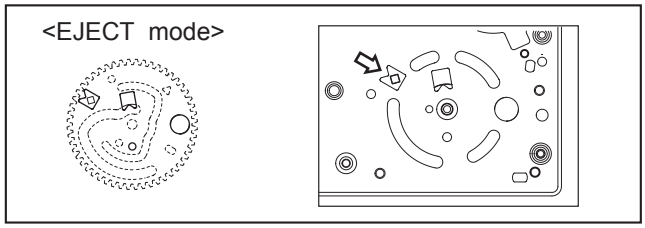


Fig.2-1-4

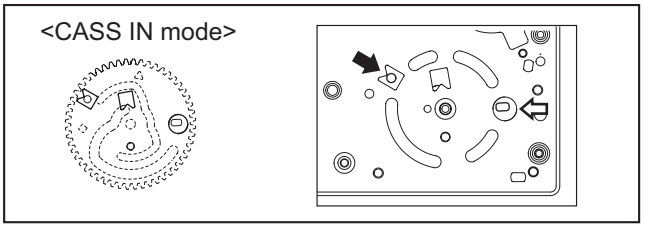


Fig.2-1-5

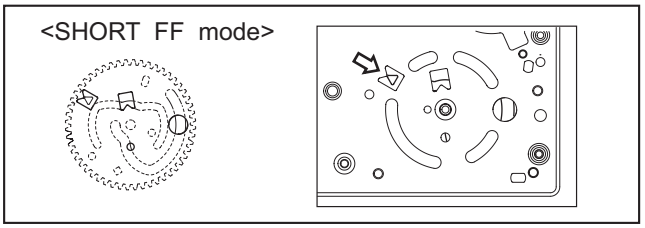


Fig.2-1-6

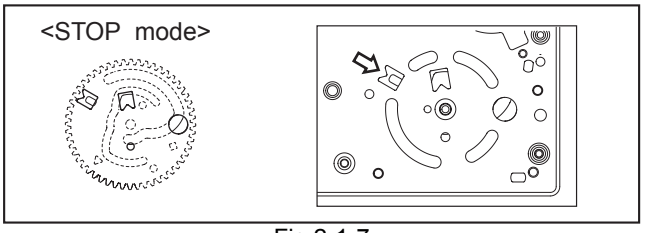


Fig.2-1-7

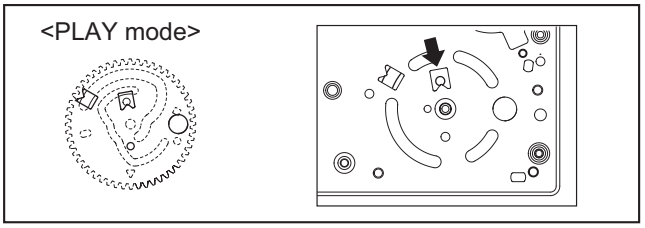


Fig.2-1-8

2.1.3.3 Mechanism timing chart

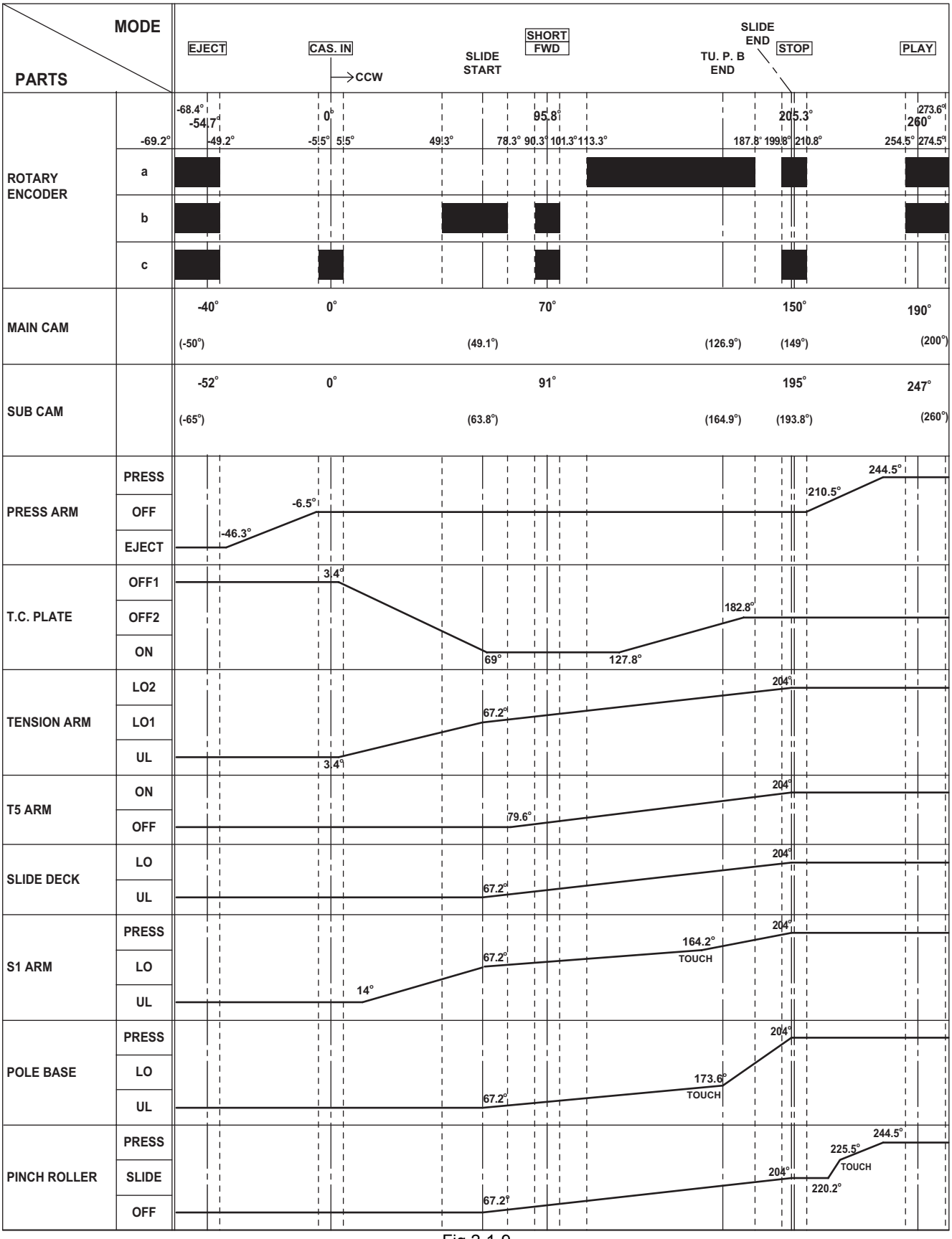
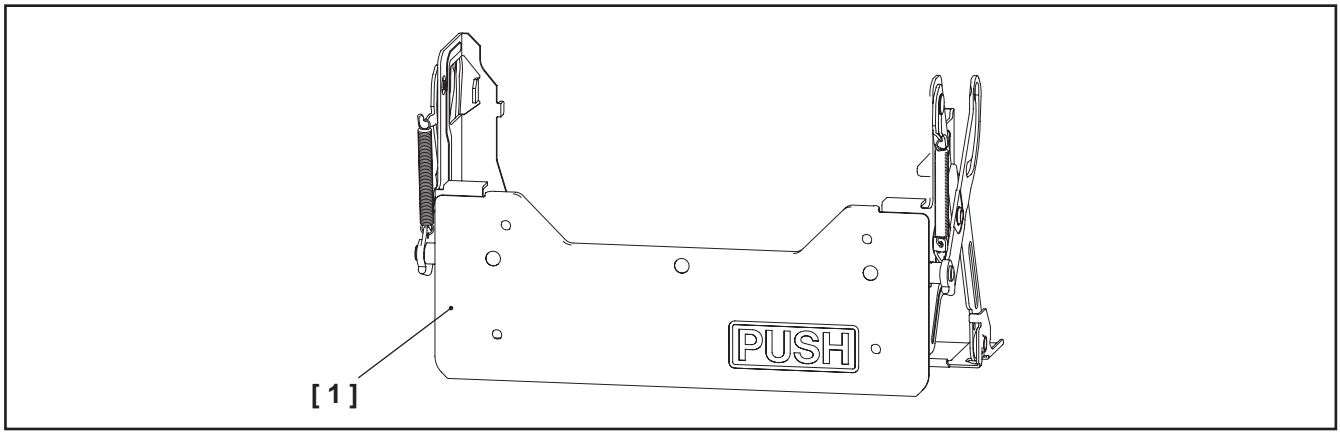


Fig.2-1-9

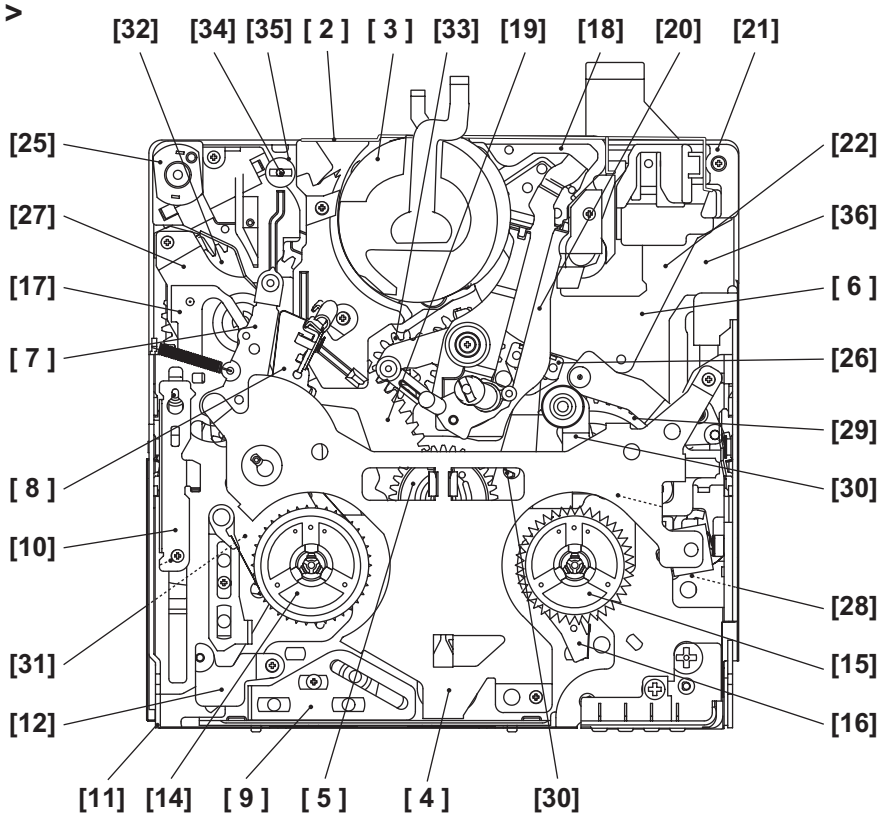
2.1.4 DISASSEMBLY PROCEDURE TABLE

MARK: **#** After assembly, perform adjustments.

NO.	PART NAME		FIG.	POINT	NOTE	REMARKS
[1]	HOUSING ASSY	T	1	2(S1),L1a,b,c,d	NOTE1a,b	ADJUSTMENT
[2]	DRUM PROTECTOR	T	2	S2,L2a,b	NOTE2	
[3]	DRUM ASSY	T		3(S3),L3a,b	NOTE3a,b	#
[4]	REEL COVER ASSY	T		2(S4),2(L4a),L4b,c	NOTE4	
[5]	IDLER ARM ASSY	T	3	-	-	
[6]	T5 ARM ASSY	T		L6a,b	NOTE6a,b	ADJUSTMENT
[7]	TENSION ARM ASSY	T		L7a,S7,L7b,2(L7c)	NOTE7a,b,c	ADJUSTMENT/#
[8]	S1 ARM ASSY	T		L8	NOTE8	ADJUSTMENT
[9]	SLIDE GUIDE PLATE	T	4	S9,L9	NOTE9a,b	ADJUSTMENT/#
[10]	GUIDE PLATE	T		S10,L10	-	ADJUSTMENT
[11]	SLIDE DECK ASSY	T		2(L11a),3(L11b),2(L11c)	NOTE11a,b	ADJUSTMENT/#
[12]	CASSETTE GUIDE	T	5-1	S12,2(L12)	-	
[13]	PINCH ROLLER ARM ASSY	T	5-2	L13	NOTE13a,b,c	
[14]	REEL DISK ASSY (SUP)	T		L14	NOTE14a,b	
[15]	REEL DISK ASSY (TU)	T		L15	NOTE15a,b,c	
[16]	BRAKE PLATE	T		-	NOTE16	ADJUSTMENT
[17]	T. C. PLATE ASSY	T	6	L17,SLIDE COLLAR1	NOTE17	
[18]	DRUM BASE	T		3(S18),L18a,2(L18b)	NOTE18	
[19]	DRIVE ARM ASSY	T		L19,SLIDE COLLAR2	NOTE19a,b	ADJUSTMENT
[20]	GUIDE RAIL ASSY	T	7	S20	NOTE20	ADJUSTMENT/#
[21]	T5 CATCHER	T		S21,L21	-	
[22]	CAPSTAN MOTOR	T		2(S22)	NOTE22	
[23]	REEL PULLEY	T		-	-	
[24]	CENTER GEAR	T		-	-	
[25]	MOTOR BRACKET ASSY	T	8	S25	NOTE25a,b,c	
[26]	BELT GUIDE	T		S26,2(L26)	-	
[27]	GEAR COVER	T		3(S27),L27a,b,c,d	NOTE27	ADJUSTMENT
[28]	PRESS ARM ASSY	T		L28	NOTE28	ADJUSTMENT
[29]	SUB CAM	T	9	-	NOTE29	PHASE ADJUSTMENT
[30]	CONNECT GEAR	T		-	NOTE30	
[31]	MAIN CAM	T		-	NOTE31	PHASE ADJUSTMENT
[32]	ROTARY ENCODER	T	10	L32	NOTE32	PHASE ADJUSTMENT
[33]	LOADING GEAR 1	T		-	-	
[34]	GUIDE ROLLER (S) ASSY	T		-	NOTE34a,b	#
[35]	COMPRESSION SPRING	T		-	NOTE35	
[36]	MAIN DECK ASSY	T		-	-	#



< TOP VIEW >



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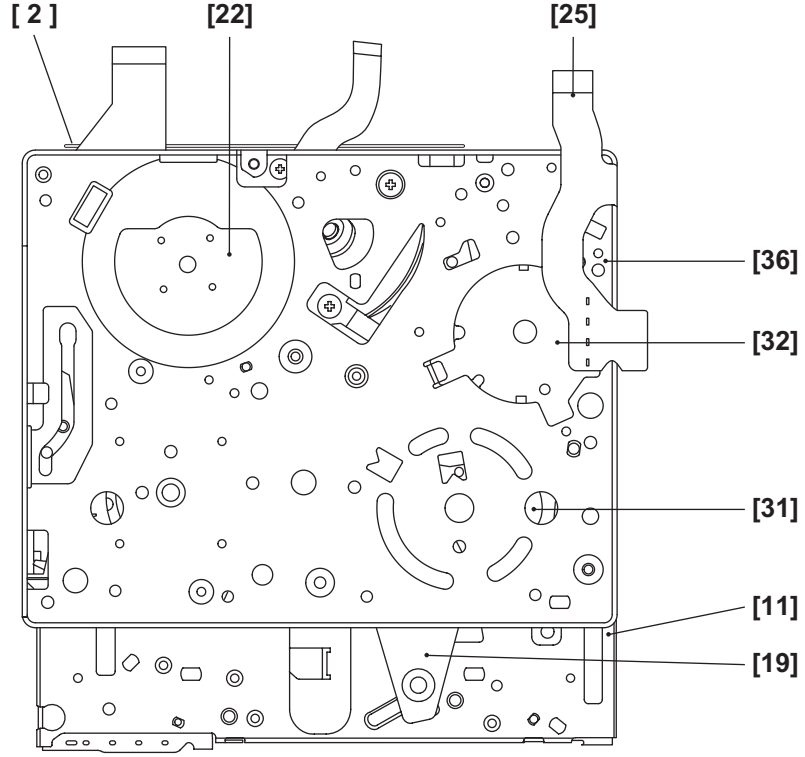


2.1.5 DISASSEMBLY/ASSEMBLY

2.1.5.1 [1] HOUSING ASSY

NOTE1a:

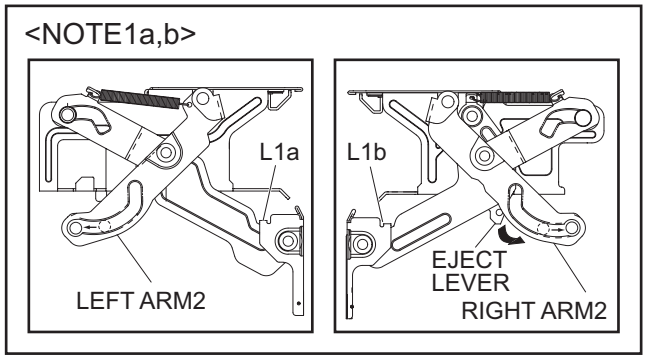
When disassembling/ assembling the MECHANISM ASSY, make sure to remove the HOUSING ASSY.

When removing the HOUSING ASSY, make sure to bring the HOUSING ASSY up either by changing the mechanism mode to the EJECT mode, or by moving the EJECT LEVER to the direction as indicated by the arrow.

During the procedure, make sure to return to the CASS IN mode if the mode was changed.

NOTE1b:

Be careful not to damage the LEFT ARM2,RIGHT ARM2 during work.



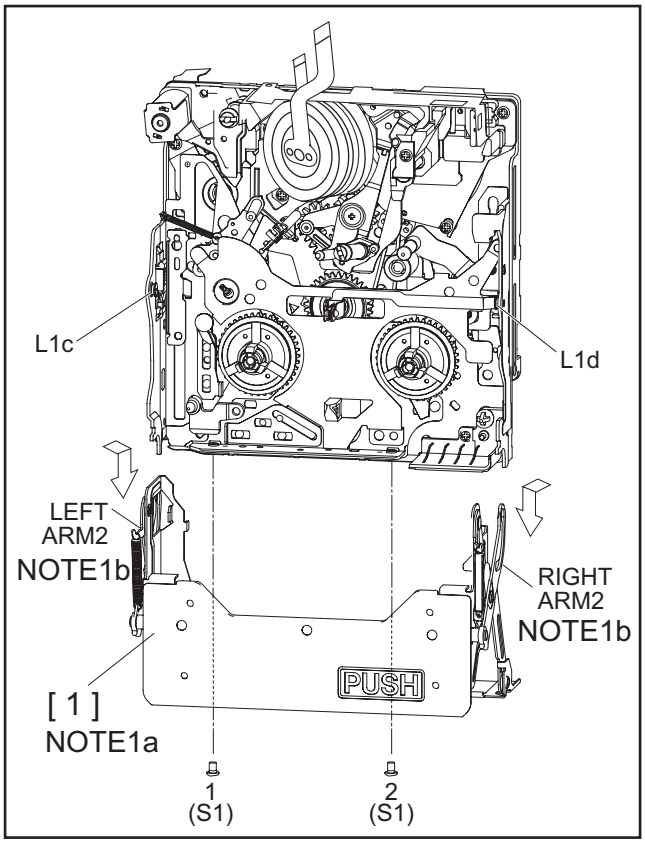


Fig.1

2.1.5.2 [2] DRUM PROTECTOR
[3] DRUM ASSY
[4] REEL COVER ASSY

NOTE2:

During the procedure, be careful in handling the FPC.

NOTE3a:

When removing, carefully hold the top center of the DRUM ASSY with fingers otherwise it may possibly fall off.

NOTE3b:

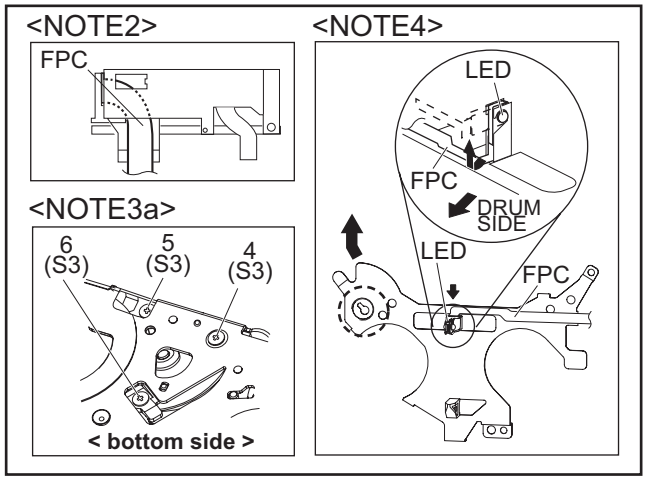
Pay extra attention to the soil, dust and scratch on the surface.

During the procedure, be careful not to cut/ damage the FPC.

NOTE4:

During the procedure, remove the LED from the REEL COVER ASSY first to set the FPC free, remove the two screws (7, 8), then remove the REEL COVER ASSY by sliding it to the direction as indicated by the arrow.

During the procedure, be careful in handling the FPC.



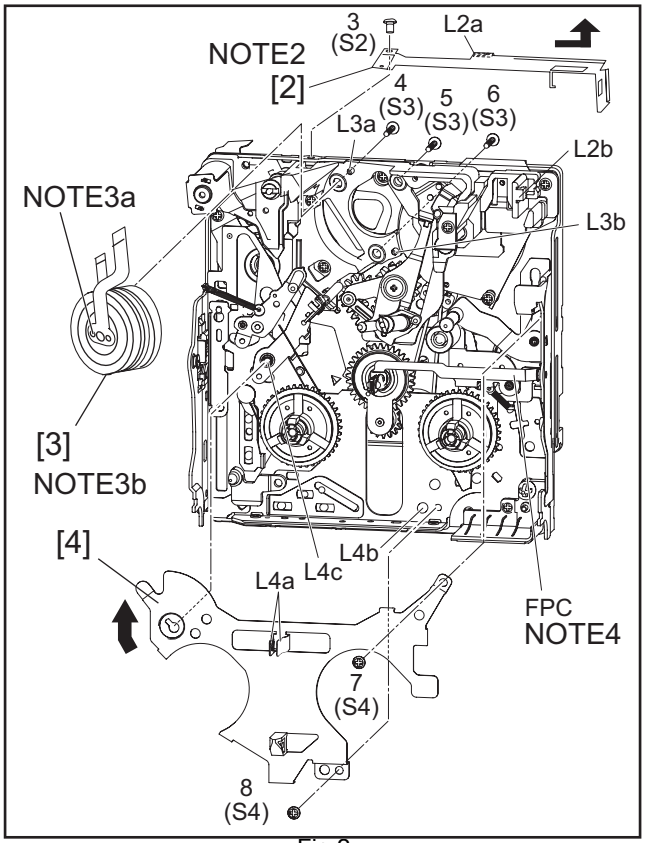


Fig.2

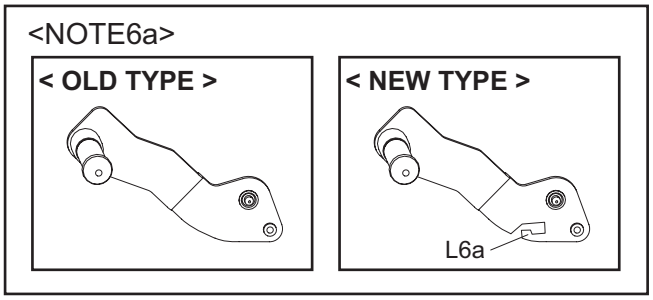
2.1.5.3 [5] IDLER ARM ASSY
[6] T5 ARM ASSY
[7] TENSION ARM ASSY

NOTE6a:

There are two types of the T5 ARM ASSY. They are different in shape. The old type is without a hook and the new type is with a hook.
When an old type is replaced by a new type, replace the PINCH ROLLER ARM ASSY at the same time as the proper combination of the parts is required.
When removing, remove the spring from the hook first if there is a hook.

NOTE6b:

When mounting, pay attention to the correct positioning.



NOTE7a:

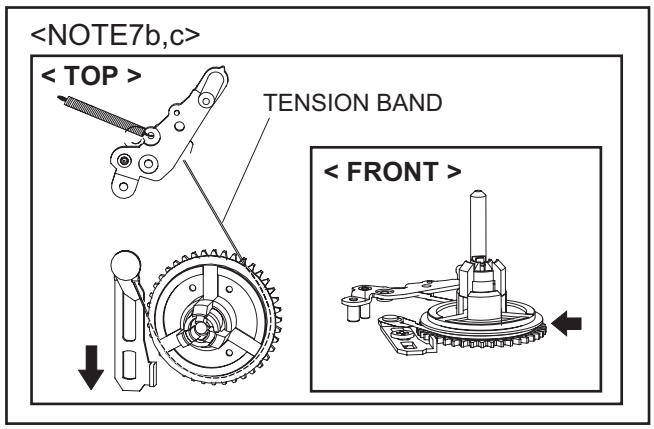
During the procedure, be careful in handling the TENSION BAND.

NOTE7b:

When mounting, attach the TENSION BAND along the groove of the gear.

NOTE7c:

When mounting, pay attention to the correct positioning.
When mounting, attach the TENSION ARM ASSY with the plate moved to the direction as indicated by the arrow.
If the plate is moved to the other direction, the TENSION BAND may break during the operation check as there is too much tension.
After the mounting, adjust the TENSION ARM ASSY.



2.1.5.4 [8] S1 ARM ASSY
[9] SLIDE GUIDE PLATE
[10] GUIDE PLATE

NOTE8:

When mounting, pay attention to the correct positioning.

NOTE9a:

When mounting, pay attention to the correct positioning.

NOTE9b:

After attachment, adjust the SLIDE GUIDE PLATE.

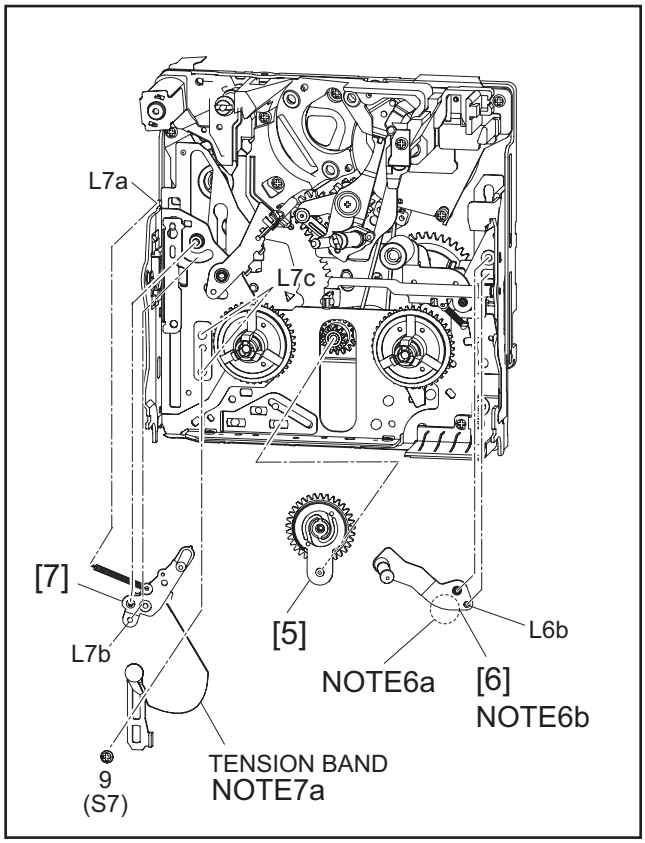


Fig.3

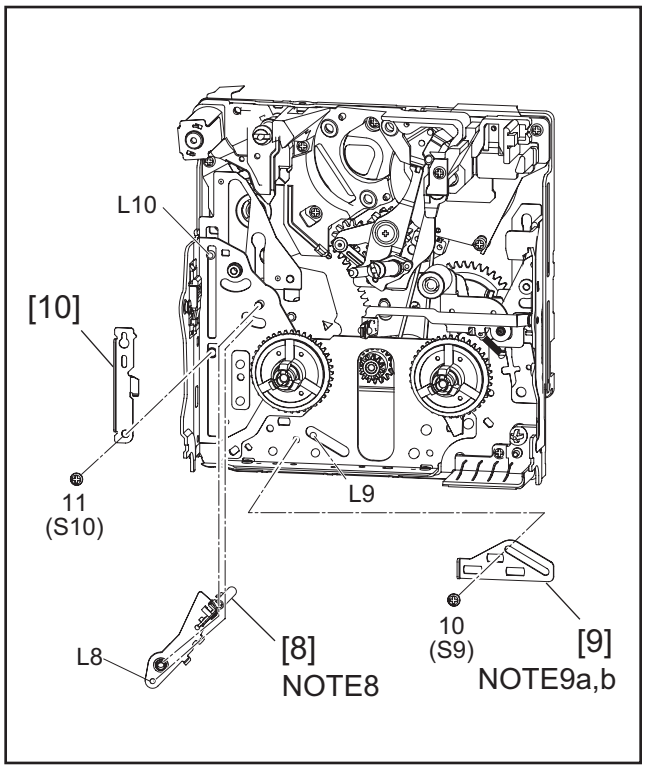


Fig.4

2.1.5.5 [11] SLIDE DECK ASSY

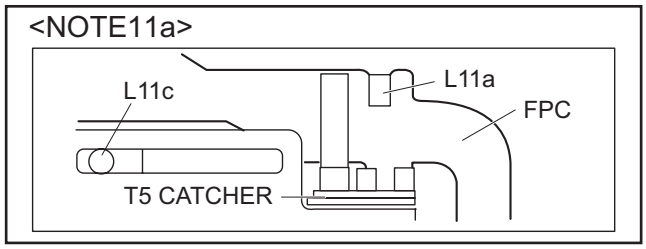
NOTE11a:

When removing, set the FPC free first.

During the procedure, be careful not to cut the FPC.

NOTE11b:

During the procedure, be careful in handling.



2.1.5.6 [12]CASSETTE GUIDE
[13] PINCH ROLLER ASSY
[14] REEL DISK ASSY (SUP)
[15] REEL DISK ASSY (TU)
[16] BRAKE PLATE

NOTE13a:

The spring attachment differs according to the types of the T5 ARM ASSY. The spring is attached either to the hook of the SLIDE DECK ASSY or to the hook of the T5 ARM ASSY. When an old type is replaced by a new type, replace the T5 ARM ASSY at the same time as the proper combination of the parts is required.

When removing, remove the spring only when the spring is attached to the SLIDE DECK ASSY.

Be careful when attaching as the spring has been removed if it was attached to the T5 ARM ASSY.

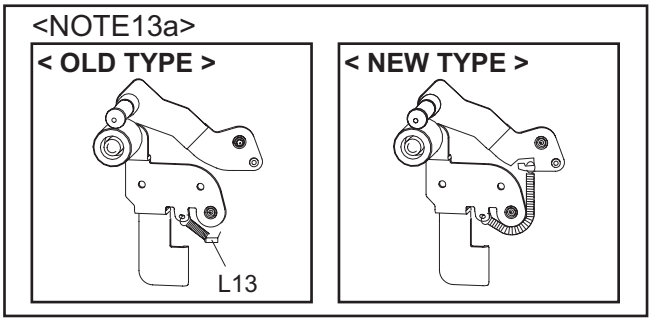
NOTE13b:

During the procedure, be careful in handling.

Pay extra attention to the soil, dust and scratch on the ROLLER.

NOTE13c:

Be sure to place this part beneath the SLIDE DECK ASSY.



NOTE14a:

When removing, be careful not to damage or open too much the hook as there is only one hook in a narrow part.

NOTE14b:

Be careful not to attach the REEL DISK wrongly. The Supply side can be identified by the white color at the center.

NOTE 15a:

When removing, be careful not to damage or open too much the hook as there is only one hook in a narrow part.

NOTE 15b:

Be careful not to attach the REEL DISK wrongly. The Take-up side can be identified by the black color at the center.

NOTE 15c:

When removing the REEL DISK ASSY, be careful in handling as the BRAKE PLATE which is located under the REEL DISK ASSY becomes free.

NOTE 16:

During the procedure, be careful in handling.

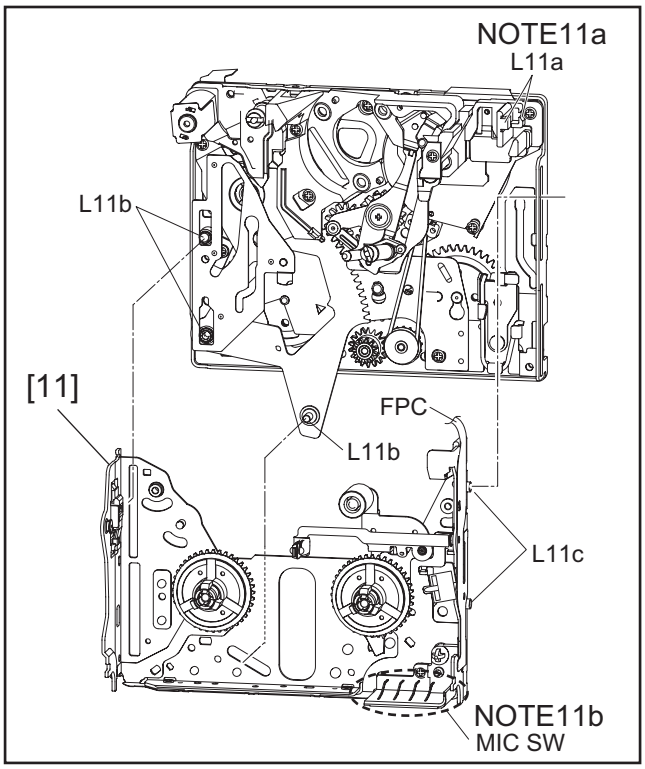


Fig.5-1

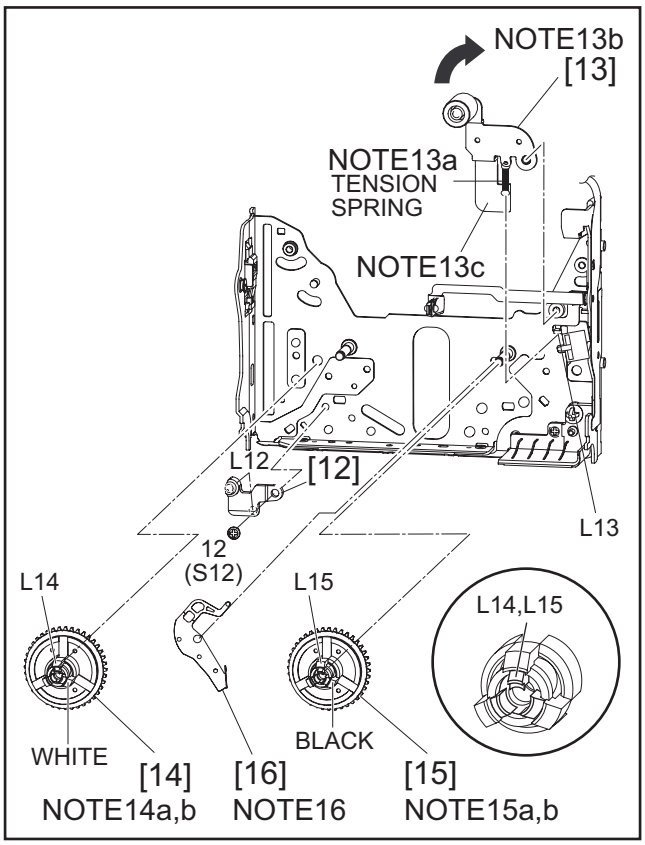


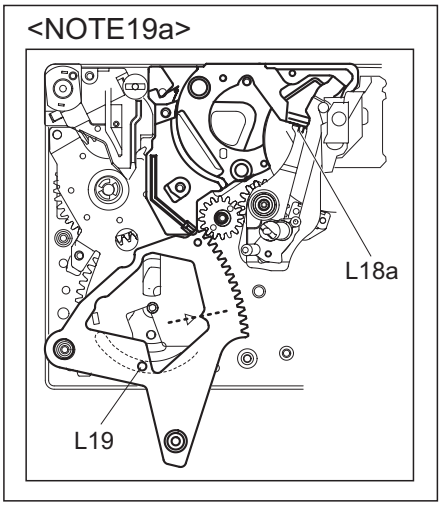
Fig.5-2

2.1.5.7 [17] T. C. PLATE ASSY
[18] DRUM BASE
[19] DRIVE ARM ASSY

NOTE17:
During the procedure, be careful not to lose the SLIDE COLLAR1.

NOTE19a:
When mounting, pay attention to the correct positioning.

NOTE19b:
During the procedure, be careful not to lose the SLIDE COLLAR2.



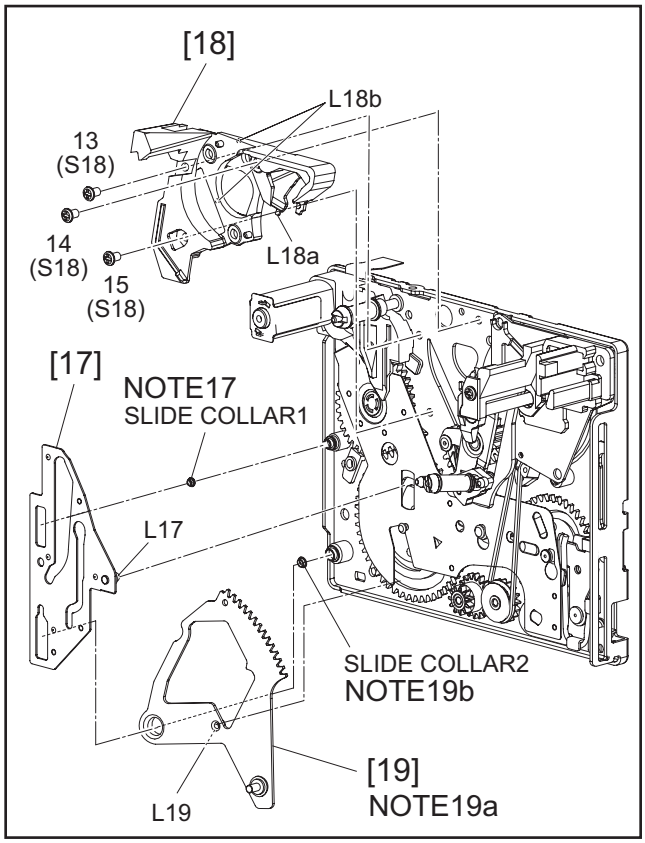
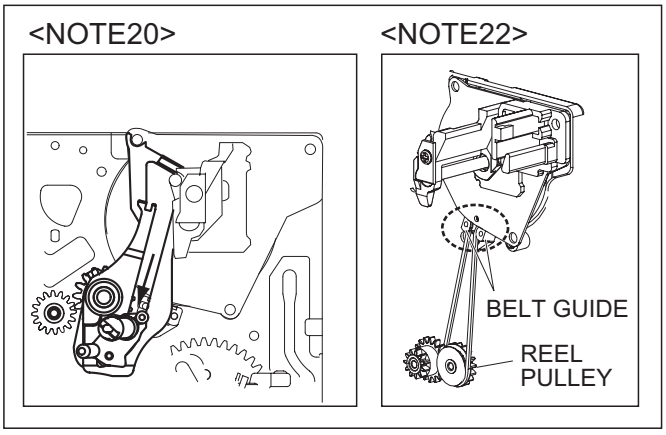


Fig.6

2.1.5.8 [20] GUIDE RAIL ASSY
[21] T5CATCHER
[22] CAPSTAN MOTOR
[23] REEL PULLEY
[24] CENTER GEAR

NOTE20:
When mounting, pay attention to the correct positioning.

NOTE22:
When attaching the BELT, place the BELT inside the BELT GUIDE and roll up around the REEL PULLEY.



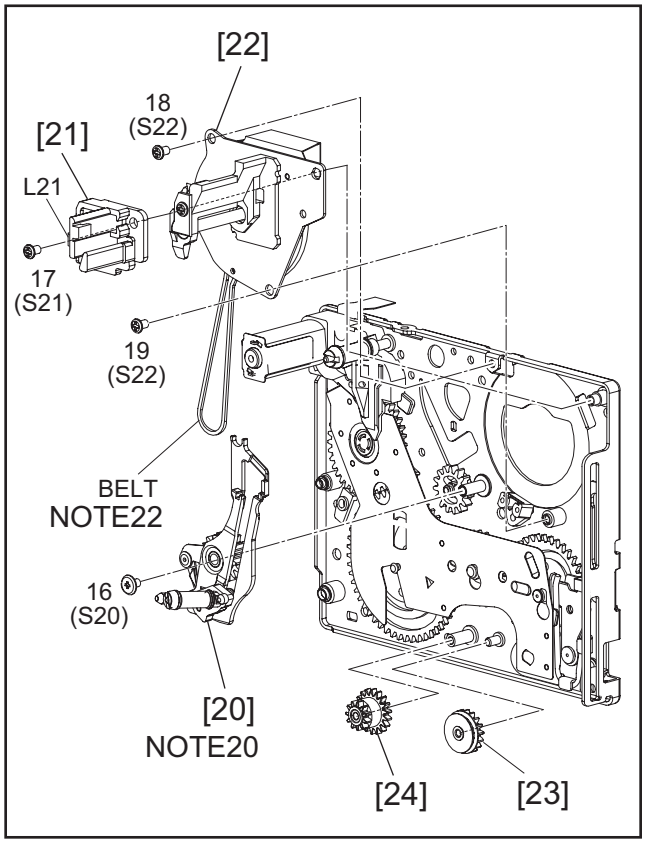


Fig.7

2.1.5.9 [25] MOTOR BRACKET ASSY
[26] BELT GUIDE
[27] GEAR COVER
[28] PRESS ARM ASSY

NOTE25a:

When disassembling, remove the four solder points (SD25) on the ROTARY ENCODER as the MOTOR BRACKET ASSY and the ROTARY ENCODER are soldered together to one FPC.

NOTE25b:

During the procedure, be careful in handling the FPC. Pay attention not to leave finger prints etc. on the surface of the DEW sensor.

NOTE25c:

During the procedure, be careful with the WORM WHEEL which is attached inside.

When mounting, attach the WORM WHEEL to the MOTOR BRACKET ASSY before mounting to the MECHANISM DECK ASSY.

NOTE27:

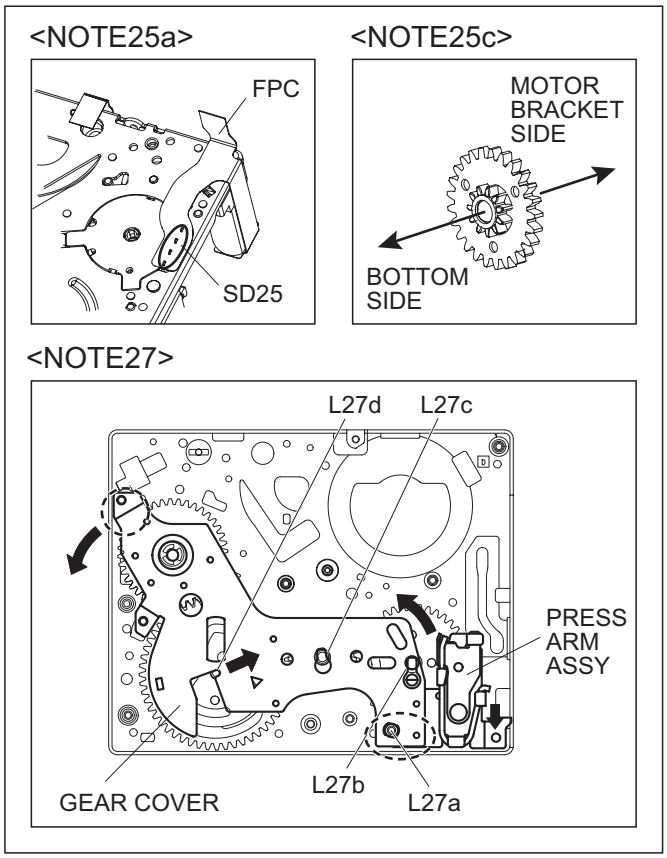
When removing, remove the three screws (22-24), turn the GEAR COVER anticlockwise by lifting up the parts with broken lines.

Remove L27b,c and slide the GEAR COVER by sliding to the direction shown with arrows.

When mounting, pay attention to the correct positioning.

NOTE28:

When mounting, pay attention to the correct positioning.



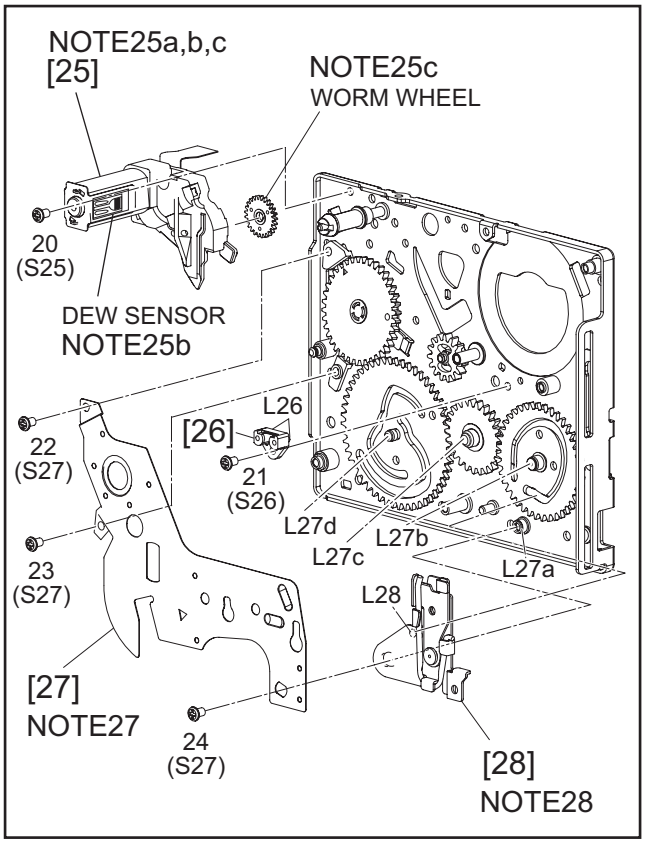


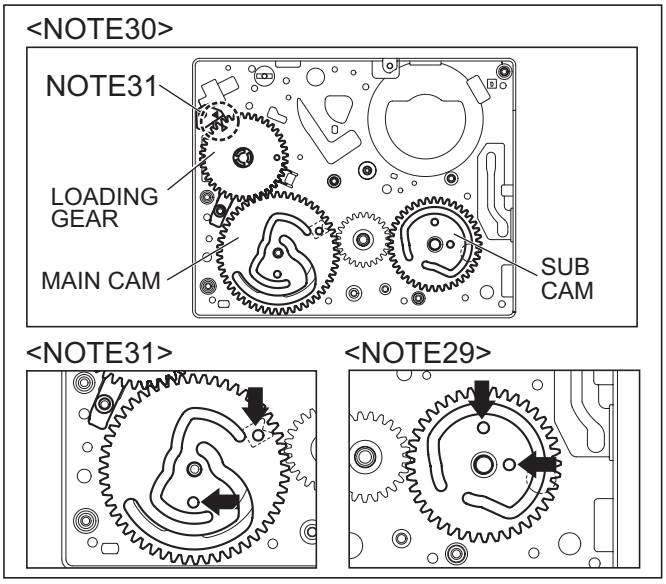
Fig.8

2.1.5.10 [29] SUB CAM
[30] CONNECT GEAR
[31] MAIN CAM

NOTE29:
When mounting, pay attention to the correct positioning.

NOTE30:
When mounting, make sure to confirm the correct positioning of the MAIN CAM, the SUB CAM, and the left and right GEAR before attachment. Although the positioning adjustment of the CONNECT GEAR itself is not necessary, the alignment of the left and right GEARs is very important.

NOTE31:
When mounting, pay attention to the correct positioning.



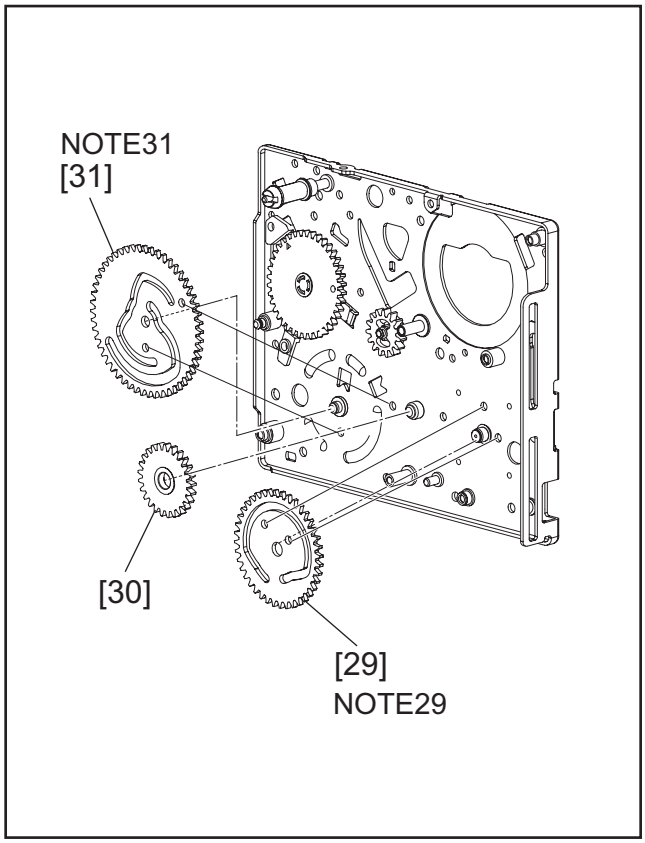
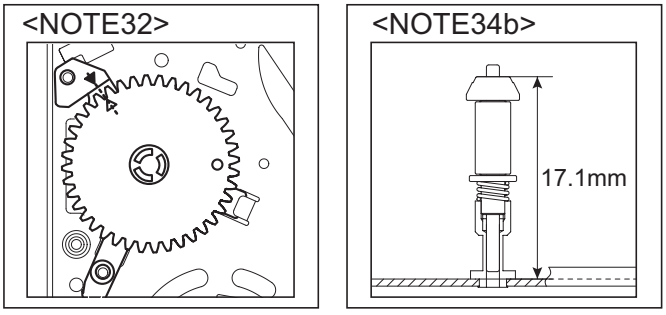


Fig.9

2.1.5.11 [32] ROTARY ENCODER
[33] LOADING GEAR 1
[34] GUIDE ROLLER (S) ASSY
[35] COMPRESSION SPRING
[36] MAIN DECK ASSY

NOTE32:
When mounting, pay attention to the correct positioning.



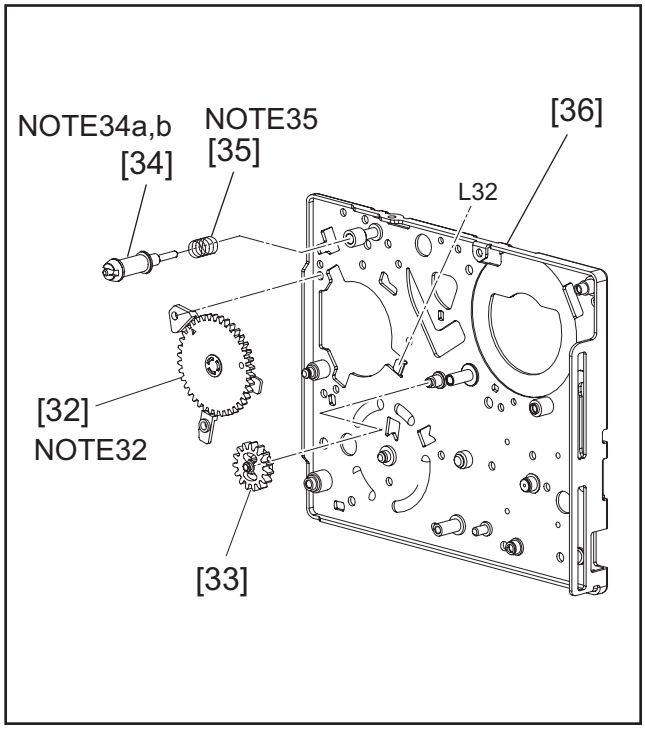


Fig.10

NOTE34a:
During the procedure, be careful in handling.
Pay extra attention to the soil, dust and scratch on the ROLLER.

NOTE34b:
Be sure to perform rough adjustment if the height of the GUIDE ROLLER (S) ASSY has been adjusted during the procedure. Otherwise the tape will be damaged when it is run.
For the rough adjustment, fully tighten up the GUIDE ROLLER (S) ASSY clockwise then rewind it 1.5 revolutions.
The guide measurement for the height is 17.1mm.

NOTE35:
During the procedure,be caraful not to lose any parts.

2.1.6 Mechanism adjustment

1. SLIDE GUIDE PLATE adjustment

This adjustment is required when the SLIDE DECK ASSEMBLY is removed from the MAIN DECK ASSEMBLY.
The adjustment is also required when the SLIDE GUIDE PLATE is removed.
Refer to the Fig2-1-6-1unless otherwise instructed.

Adjustment procedure

(1) Set the PLAY mode while the HOUSING ASSEMBLY is removed. Refer to the Fig. 2-1-8.
(2) Loosen the screw A.
(3) Press both the MAIN DECK ASSEMBLY/ SLIDE DECK ASSEMBLY inward with an even power from both left and right. Fully pull up the SLIDE GUIDE PLATE to the left and tighten the screw A.

NOTE:
When pressing the SLIDE DECK ASSEMBLY, press near the screw hole for the HOUSING ASSEMBLY attachment. Avoid pressing the sensor as it is fragile.

NOTE:
The tightening torque is 0.078N•m(0.8kgf•cm)

(4) Perform an operation check.

NOTE:
Repeat the operation check of unloading/ loading to confirm the smooth and steady slide movement without any jam or rattle.

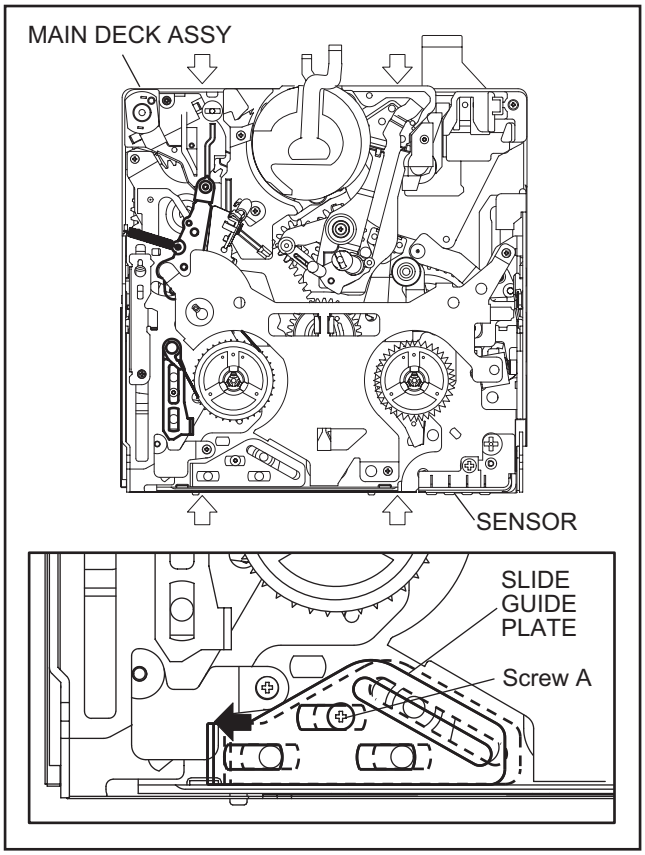


Fig.2-1-6-1

2. Tension Arm Assembly adjustment

This adjustment is required when the Tension Arm Assembly is replaced.
Refer to the Fig.2-1-6-2unless otherwise instructed.

Adjustment procedure

(1) Set the Play mode while the Housing Assembly is removed. Refer to the Fig. 2-1-8.
(2) Loosen the screw B.
(3) Slide the Guide Plate up and down to set the tip of the Tension Arm Assembly to the edge of the screw groove, and tighten the screw B.
• The tightening torque is 0.049N•m(0.5kgf•cm)
(4) Perform an operation check.

NOTE:
Repeat loading and unloading, and make sure to check that the top of the TENSION ARM and the edge match properly when observed from the straight above.

NOTE:
The adjustable range is ±0.25mm from the edge.

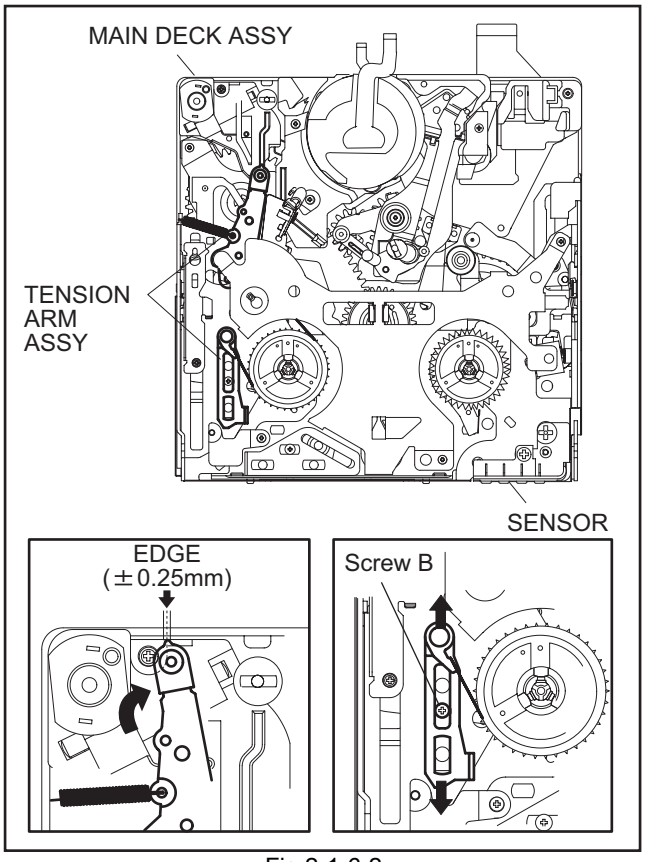
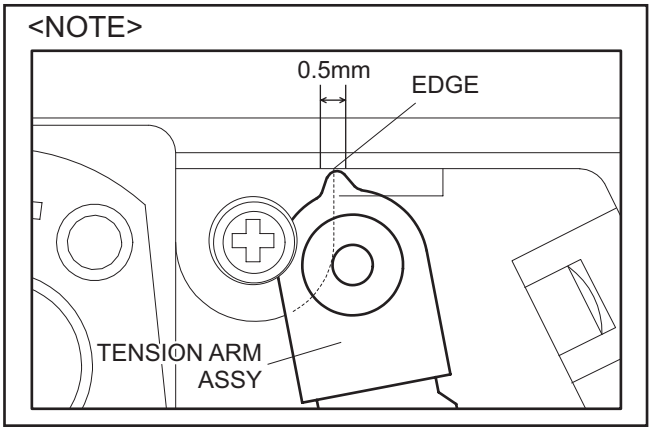


Fig.2-1-6-2



2.1.7 REMARKS

2.1.7.1 Cleaning

(1) For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

NOTE:
Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.

(2) For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.

(3) After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.1.7.2 Applying oil and grease

(1) Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.

(2) For parts and points to apply oil and grease, refer to the PARTS LIST.
Fig.2-1-7 specifies oil and grease to be used.

(3) When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

specifies oil and grease to be used

Fig.2-1-7

2.1.8 SERVICE NOTE

Use the following chart to manage mechanism parts that are removed for disassembling the mechanism.

Fig.1

[1] HOUSING ASSY

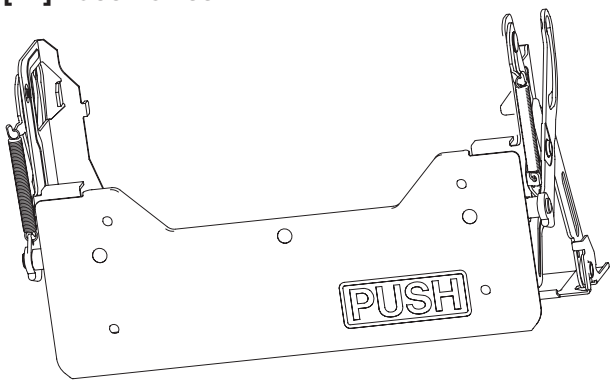
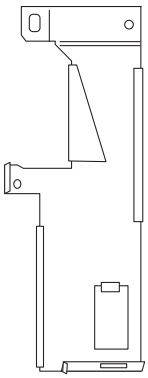


Fig.2

[2] DRUM PROTECTOR



[3] DRUM ASSY

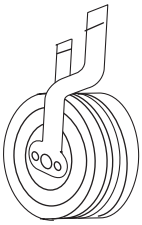


Fig.2

[4] REEL COVER ASSY

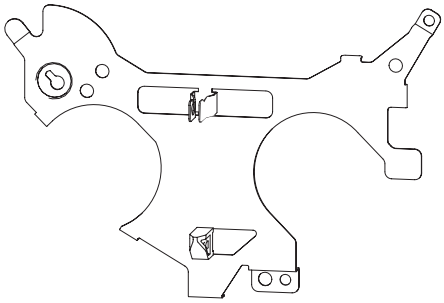
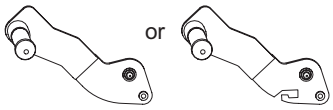


Fig.3

[5] IDLER ARM ASSY

[6] T5 ARM ASSY

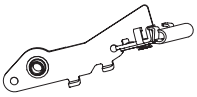
(OLD TYPE) (NEW TYPE)



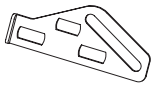
[7] TENSION ARM ASSY

Fig.4

[8] S1 ARM ASSY



[9] SLIDE GUIDE PLATE



[10] GUIDE PLATE

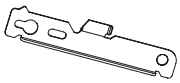


Fig.5-2

[12] CASSETTE GUIDE

Fig.5-1

[11] SLIDE DECK ASSY

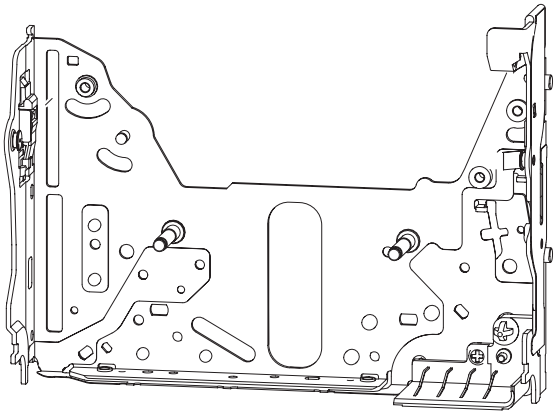
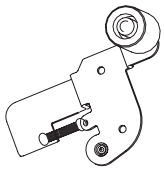
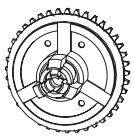


Fig.5-2

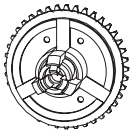
[13] PINCH ROLLER ASSY



[14] REEL DISK ASSY (SUP : WHITE)



[15] REEL DISK ASSY (TU : BLACK)



[16] BRAKE PLATE

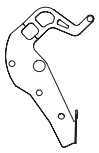
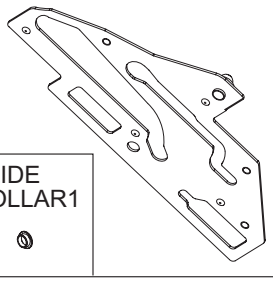


Fig.2-1-8-1

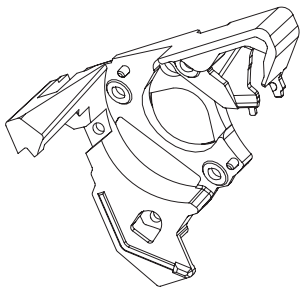
Fig.6

[17] T.C.PLATE ASSY

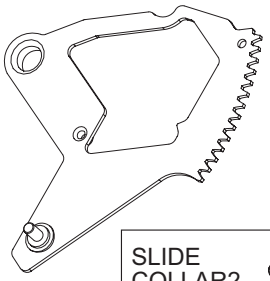


SLIDE COLLAR1

[18] DRUM ASSY



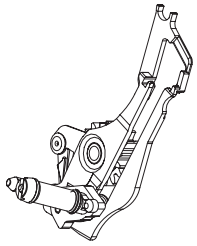
[19] DRIVE ARM ASSY



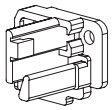
SLIDE COLLAR2

Fig.7

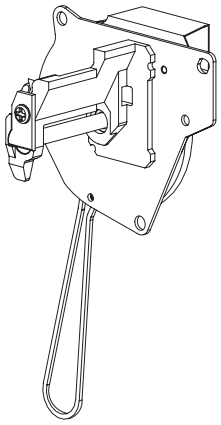
[20] GUIDE RAIL ASSY



[21] T5 CATCHER



[22] CAPSTAN MOTOR

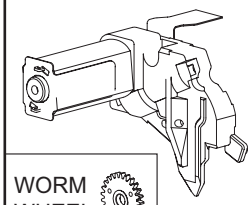


[23] REEL PULLEY

[24] CENTER GEAR

Fig.8

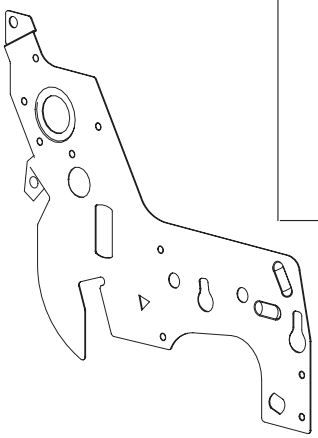
[25] MOTOR BRACKET ASSY



WORM WHEEL

[26] BELT GUIDE

[27] GEAR COVER



[28] PRESS ARM ASSY

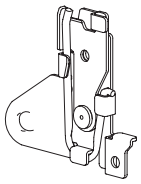
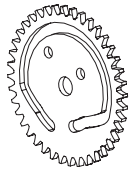
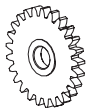


Fig.9

[29] SUB CAM



[30] CONNECT GEAR



[31] MAIN CAM

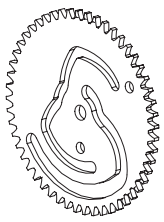
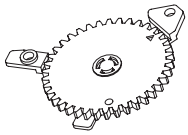


Fig.10

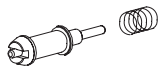
[32] ROTARY ENCODER



[33] LOADING GEAR1

[34] GUIDE ROLLER(S) ASSY

[35] COMPRESSION SPRING



[36] MAIN DECK ASSY

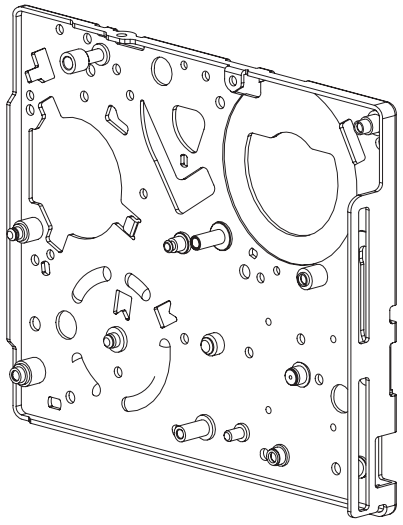


Fig.2-1-8-2

2.1.9 SERVICE NOTE 2

Use the following chart to manage screws.

Symbol No.	[1]		[2]	[3]			[4]		[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]			[19]
Removing order of screw	1	2	3	4	5	6	7	8	-	-	9	-	10	11	-	12	-	-	-	-	-	13	14	15	-
Place to stick screw									-	-		-	*		-		-	-	-	-	-				-
Reference drawing (Fig.No.)	Fig.1		Fig.2						Fig.3			Fig.4			Fig.5-1	Fig.5-2					Fig.6			
Screw tightening torque	a		b				a		-		a	-	a/c	a	-	b	-					b			-

Symbol No.	[20]	[21]	[22]		[23]	[24]	[25]	[26]	[27]			[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]
Removing order of screw	16	17	18	19	-	-	20	21	22	23	24	-	-	-	-	-	-	-	-	-
Place to stick screw					-	-						-	-	-	-	-	-	-	-	-
Reference drawing (Fig.No.)	Fig.7						Fig.8						Fig.9			Fig.10				
Screw tightening torque	a	b			-		b					-								

Fig.2-1-7

NOTE:

- Pay careful attention to tightening torque for each screw.
- Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.

a : 0.049N·m (0.5kgf·cm) b : 0.039N·m (0.4kgf·cm) c : 0.078N·m (0.8kgf·cm)

- The tightening torque of the No.10 screw is 0.049N·m(0.5kgf·cm) for mounting, and 0.078N·m(0.8kgf·cm) for adjustment. For details, refer to the adjustment item "2.1.6.1 Adjustment of the SLIDE GUIDE PLATE"

JVC

Victor Company of Japan, Limited
AV & MULTIMEDIA COMPANY CAMCORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YF081)

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PARTS LIST

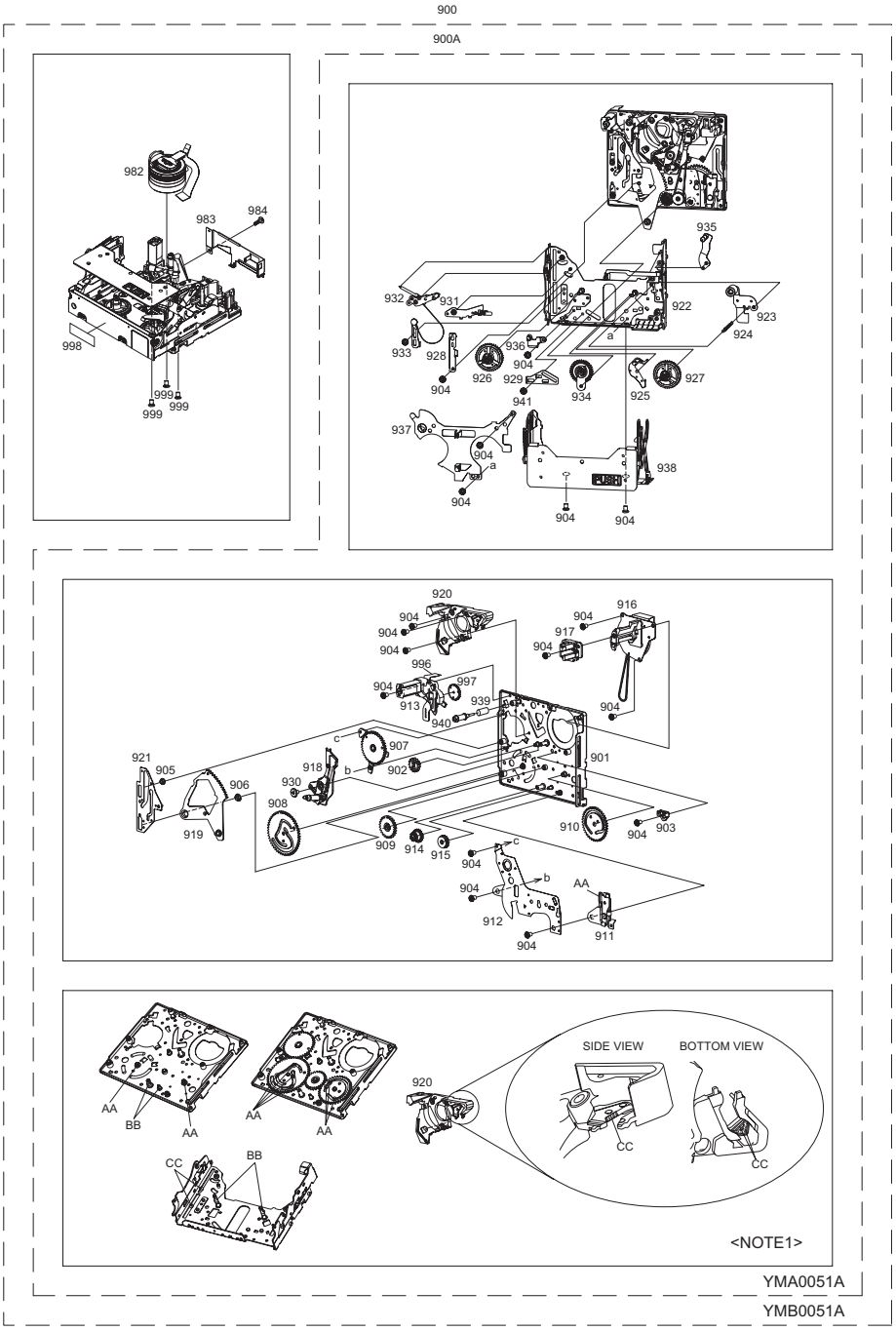
SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.
Since parts numbers described here are the numbers at the time of manualissue, they are subject to change without notice. Therefore, be sure to see a parts list in the service manual of each model as for parts numbers.

1. MECHANISM ASSEMBLY<M2>



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

NOTE1: The section marked in AA, BB and CC indicate lubrication and greasing areas.

2. PARTS LIST

MECHANISM ASSEMBLY <M2>

⚠ Symbol No.	Part No.	Part Name	Description	Local
900	YMB0051A	MECHA(B)ASSY		
900A	YMA0051A	MECHA(A)ASSY		
901	LY10525-001C	MAIN DECK ASSY		
902	LY34335-001A	LOADING GEAR 1		
903	LY34338-001A	BELT GUIDE		
904	LY34229-001A	MINI SCREW	(x17)	
905	LY44973-001B	SLIDE COLLAR 1		
906	LY44974-001B	SLIDE COLLAR 2		
907	QSW1116-001	ROTARY ENCODER		
908	LY21263-001A	MAIN CAM		
909	LY34319-001A	CONNECT GEAR		
910	LY34320-001A	SUB CAM		
911	LY34321-001A	PRESS ARM ASSY		
912	LY21264-001B	GEAR COVER		
913	LY34315-001D	M.BRACKET ASSY		
914	LY34337-001A	CENTER GEAR		
915	LY34336-001A	REEL PULLEY		
916	QAR0338-001	CAPSTAN MOTOR		
917	LY21270-001A	T5 CATCHER		
918	LY21266-001D	GUIDE RAIL ASSY		
919	LY34325-001B	DRIVE ARM ASSY		
920	LY10530-001D	DRUM BASE		
921	LY34326-001C	T.C.PLATE ASSY		
922	LY21271-001F	SLIDE DECK ASSY		
923	LY34345-001A	P.R.ARM ASSY		
924	LY44764-001B	TEN.SPRING(P.R)		
925	LY34348-001A	BRAKE PLATE		
926	LY34349-001D	REEL DISK ASSY		
927	LY34349-002B	REEL DISK ASSY		
928	LY34342-001A	GUIDE PLATE		
929	LY34340-001A	SLIDE GUIDE PLT		
930	LY34229-005A	MINI SCREW		
931	LY34358-001E	S1 ARM ASSY		
932	LY21273-001H	T.ARM ASSY		
933	LY43675-007A	MINI SCREW		
934	LY34355-001B	IDLER ARM ASSY		
935	LY34343-001B	T5 ARM ASSY		
936	LY34341-001A	CASSETTE GUIDE		
937	LY34365-001D	REEL COVER ASSY		
938	LY10531-001F	HOUSING ASSY		
939	LY44734-001B	COMP.SPRING		
940	LY34314-001A	G.ROLLER(S)ASSY		
941	LY45076-001A	TRUSTER SCREW		
982	YDV2104B-CX	DRUM ASSY		
983	LY21311-001A	DRUM PROTECTOR		
984	LY34229-001A	MINI SCREW		
996	LY34676-001A	MOTOR FPC ASSY		
997	LY34318-001A	WORM WHEEL		
998	LY44890-001A	LABEL(HOUSING)		
999	LY34229-006A	MINI SCREW	(x3)	